THE NAVAL SAFETY CENTER'S AVIATION MAGAZINE

approach

September 2001

Nevermore

My Head, the Pressure Chamber

Dive Right!

approach

The Naval Safety Center's Aviation Magazine
September 2001 Volume 46 No. 09
On the Cover A P-3C, with VP-10, stands by as the ready alert at Naval Station Roosevelt Roads, Puerto Rico.
Photo by PH3 Alesha Stanaitis
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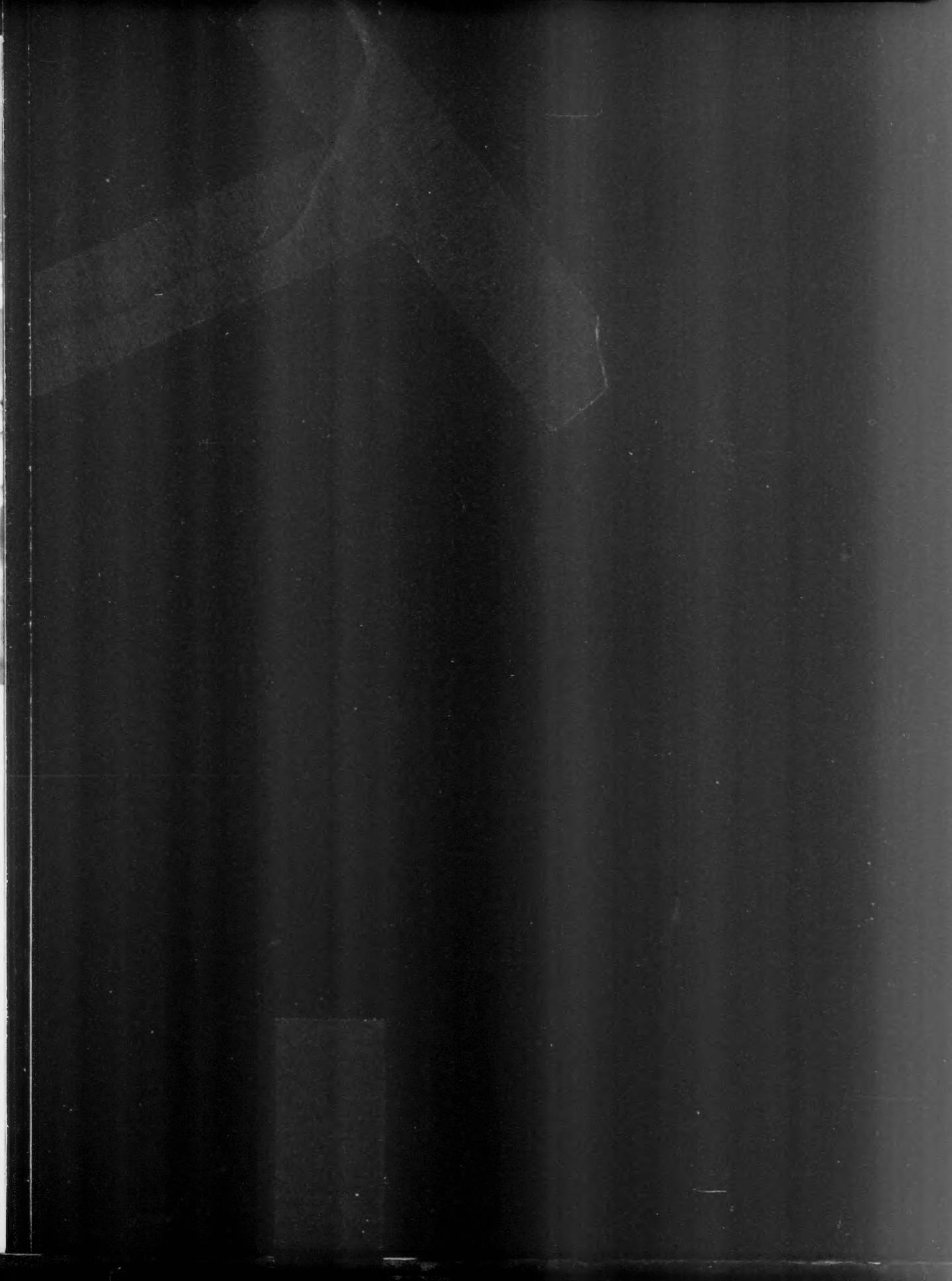

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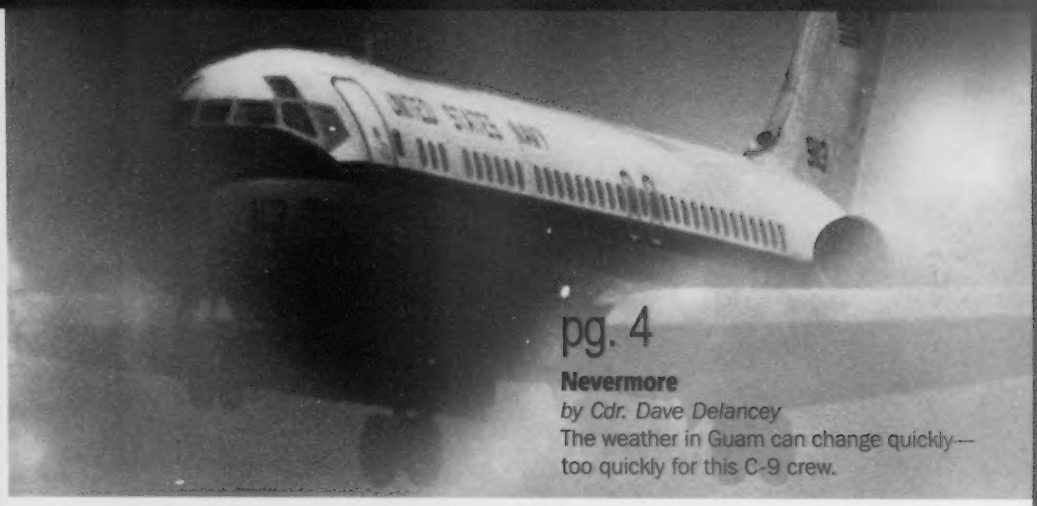

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Editorial:

Applying OJT and ORM Off-Duty

by RAdm. David Architzel,
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During the past five fiscal years, 331 Sailors and 271 Marines were killed on highways. These deaths represented nearly 81 percent of all off-duty deaths during the period, and were more than twice the number killed in all operational mishaps. Think about that for a moment. During those five years, twice as many people died on the road as perished in all the airplane crashes, ship collisions, groundings, fires and explosions in the entire Navy and Marine Corps.

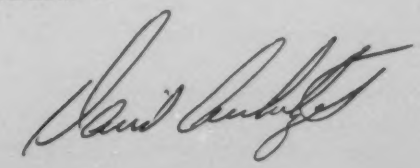
Part of the reason for the difference in the numbers of off-duty and on-duty mishaps is operational risk management (ORM). We know the work we do on the job is dangerous, and we're acutely aware that a moment's inattention can lead to disaster. As a result, we're careful at work—we use ORM to ferret out and avoid unnecessary risks. However, too few of us carry these proven principles out the gate with us at the end of the day. We let down our guard, especially on the road, thinking the danger is behind us, and tragedy strikes—twice as often as it does on the job.

Marine Corps leadership decided that the off-duty mishap rates were unacceptable. As a result, the Corps reduced off-duty death rates by 46 percent. When top leadership tackles a serious issue and demands the full attention and support of their subordinates, things happen. The word has yet to reach everyone in the Corps, but the number who have heard and responded positively (as the numbers show) is growing daily.

This isn't to say that the Navy and Marine Corps can be satisfied with our operational mishap rate. In less than a month, we've lost two training aircraft and four aviators. In a recent shipboard mishap, a diver died after he became fouled in the ship's anchor chain. Ashore, we lost a Sailor when he suffered a heart attack during a command PRT run. In one week, seven Marines lost their lives, and four others were seriously injured in operational mishaps in the air and ashore.

Ours is a dangerous business. Members of the Senate Armed Services Committee recently noted that military deaths in peacetime "remind us of the risks that men and women in our armed services take every day on our behalf, so we're grateful to them." The Marine Corps Commandant, Gen. J. L. Jones, shared those words in a message to Marines everywhere. He also issued this challenge to commanders: "It's our responsibility to maximize training while minimizing risk. We cannot be satisfied until we have driven our mishap rates as close to zero as is humanly possible... Our young warriors count upon our leadership and judgment to keep them safe. This is our greatest responsibility as leaders."

I strongly agree. We must never let the death of a shipmate become just another statistic. Remember the human side of the equation, and don't accept mishaps as the cost of doing business. Help establish a culture where people pay attention to what they're doing, think about what can go wrong, and decide what can be done to prevent it. Empower them to act on their knowledge and experience, and reward them for the lives they save. Leaders need to be involved in establishing these habits and attitudes both on and off the job. The time to raise the benchmark is now.



Dive Right!

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It was a beautiful afternoon. The sun was nearing the end of its journey across the southern California sky. I opted to climb into the VFR corridor for our flight home. We leveled off in accordance with semi-circular cruising rules. I explained to the fleet replacement pilot how to use the system to place a reference mark at defined coordinates. I had him break open the approach plates to find the latitude and longitude of a navaid we would cross over on the way back. I coached him through the button-crunching necessary to input the latitude and longitude.

As we neared the intersection of the east-west corridor with our own north-south corridor, the ICS sparked to life. Our air crewman calmly reported, "Traffic, 11 o'clock—no, 10 o'clock…" and then, much more urgently, "The hell with it, dive right!"

I jammed the cyclic to the right and was astounded to see a small, twin-engine airplane growing much larger in the left window and then slide overhead of the canopy as he crossed a couple of hundred feet above us. I don't know if we would have hit this guy, but if we had, it would have undoubtedly been a leading news story across the nation. I could see the headlines now, "Navy helo plummets into a congested freeway in the last minutes of rush hour." I do know an alert crewman had saved us from coming extremely close. That civilian wasn't reading the same rule book I was.

I doubt he could have seen us: The sun was setting directly behind us. It probably was not very smart of me to distract a key set of eyeballs while navigating a busy VFR corridor, but the crew coordination and communication was in line with my NATOPS brief. The crewman responded in exactly the right way to a critical situation. During my briefs, I continue to enforce the crewman's see-and-avoid responsibilities, and I now have an excellent example.

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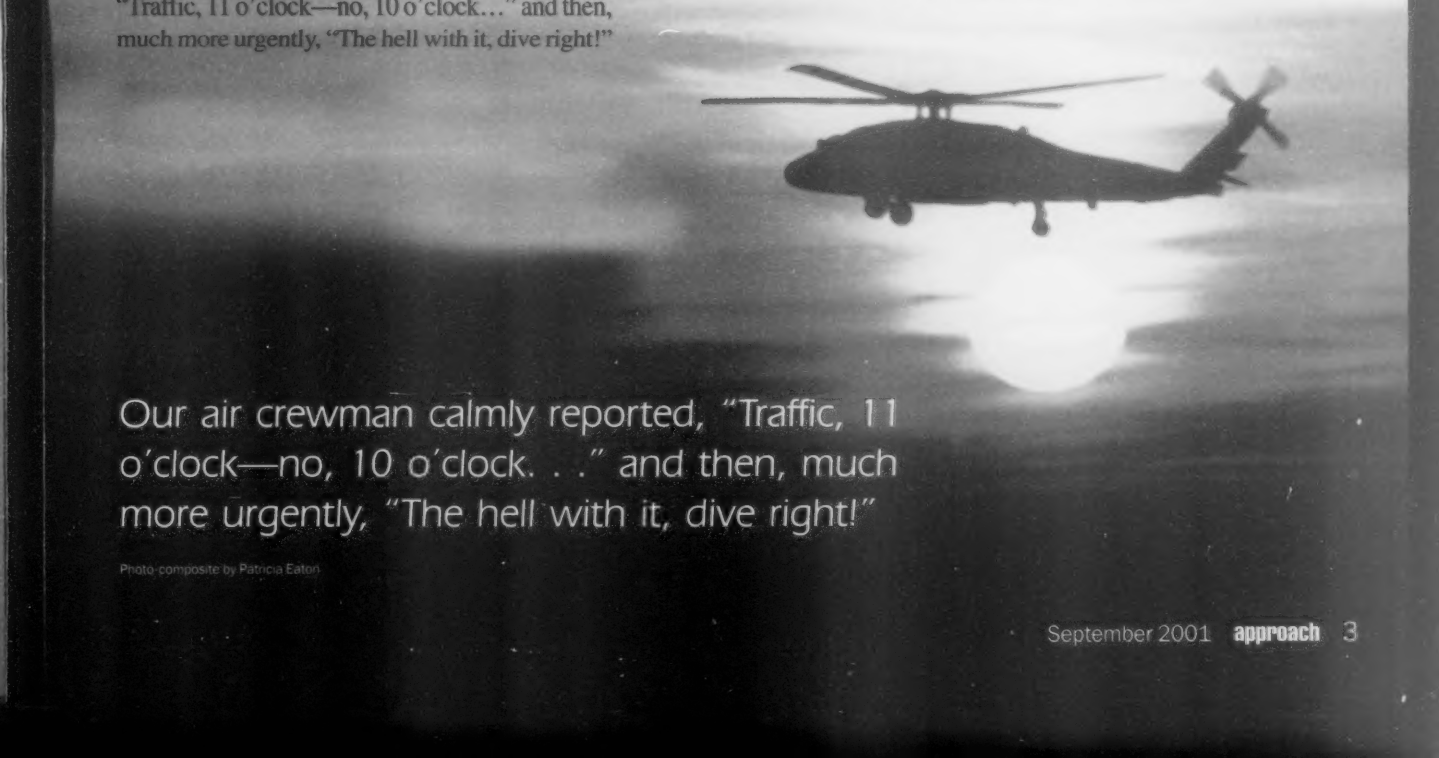

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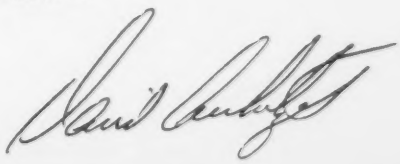

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Photo-composite by Patricia Eaton

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I'm a Navy C-9 pilot, a 20-year commander in the Navy Reserve who also flies as a captain for an airline. My time is equally split between my civilian and military jobs. I spend months each year in Japan or Italy, flying passengers and cargo for the Navy.

Last month, we were tasked to fly from Atsugi to Phuket, Thailand, stay overnight, fly a leg to pick up a SEAL platoon, bring them back to Phuket, spend another night, and then return them to their forward deployed home base in Guam. This was an unusual but not unheard-of mission for a C-9.

The mission went fine all the way back to Phuket on the second night. Gas started to become an issue when we had both of the SEAL det crews and their combat cargo on board. That extra weight limited the amount of fuel we could carry to about 30,000 pounds (four and a half to five hours worth).

Three tropical depressions were beginning to stir in the Far East. One was up north, to the west of Korea; it wasn't a factor. But one was sitting just to the west of the Philippines and was slowly drifting east toward Manila. The third, named Samoi, was spinning up to the northeast of Guam and sliding northwest. Its projected track would keep it 200 miles north of the island. Not forecasted, it soon would accelerate to super typhoon status.

Phuket, Thailand, is an international resort (where the movie "The Beach" was filmed), so while overseas communication was expensive, it wasn't impossible. Worried about the weather, I made several long-distance calls to our scheduler and various weather agencies around the area. We would beat the first typhoon into Manila with a day to spare.

With the SEAL team on board, we departed Phuket airport early that morning. About 200 miles into the flight, the first thunderstorms started to appear, and we switched on the weather radar. It didn't work. It had tested fine on the ground and in the air, but it wouldn't show us the storms. We made the only decision we could and turned around to get it fixed. We carry our own mechanics with us, and an hour and a half later, back on the ground in Phuket, they found a broken wire. We fueled the aircraft and started off, now more than two hours late.

The weather into Manila was dicey but manageable. We used the radar to skirt the worst of the storms on our way in from the west, and found clearer weather as we approached the field. The leg took three hours and 40 minutes, and we

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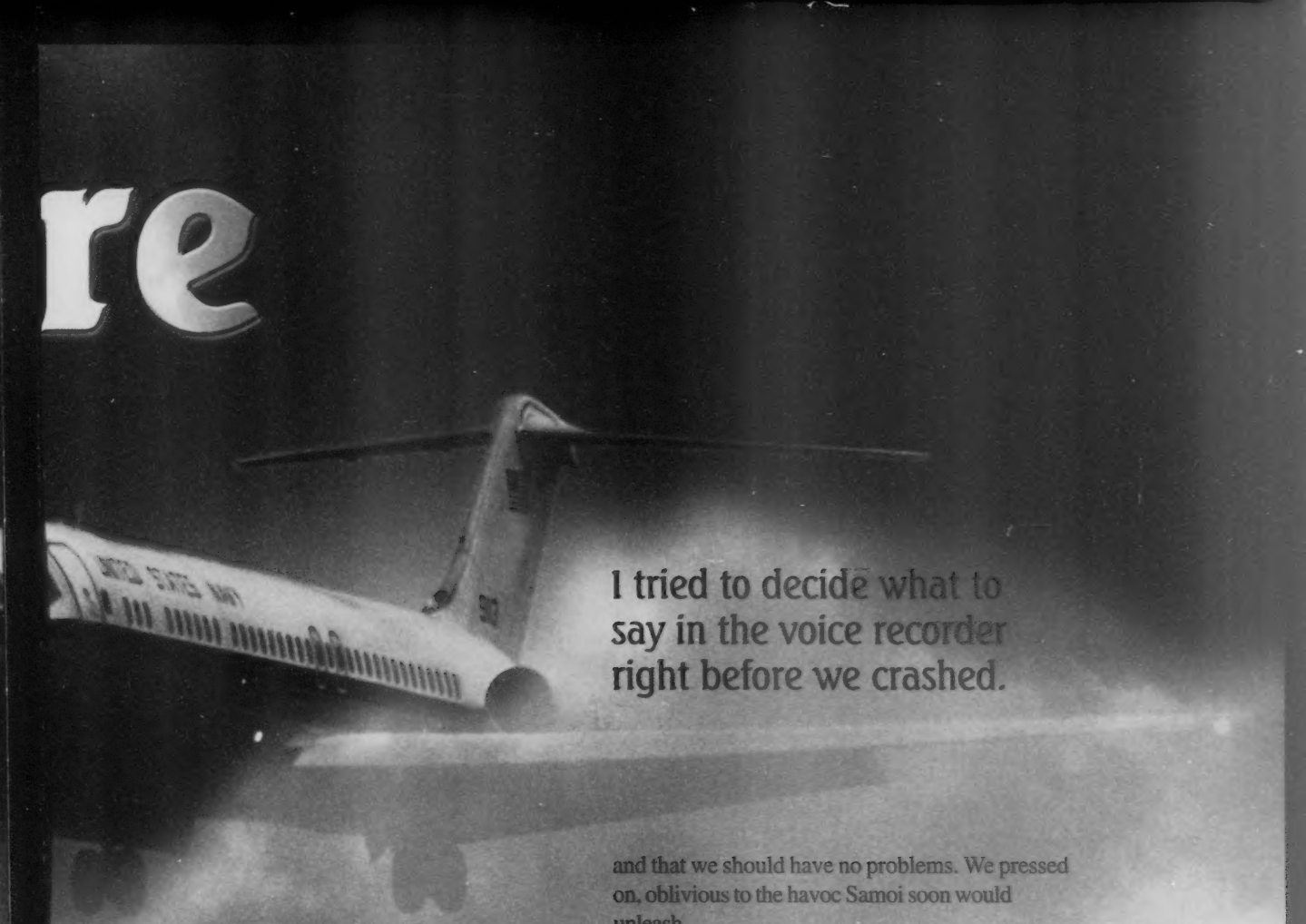

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landed with 6,500 pounds of fuel, just above the legal planning limit of 6,000 pounds.

Again we refueled. We were losing daylight by flying east, and it was now dusk in the Philippines. Again, I hauled out my credit card and called to recheck the weather. There was a chance of light rain later that evening in Guam, but we didn't expect any real problems. The next leg was projected to last three hours and 20 minutes, so we were confident we'd have fuel to spare. There are two major airports on Guam, even though it is a small island. This is important for a C-9, because almost every time we fly to an island, we don't have enough fuel to go anywhere else. That was certainly true this night. This leg was business as usual, legal by every naval aviation regulation. I would have flown it with my family in the back.

We took off in the deepening twilight, maneuvering to avoid the storms that the radar picked up with increasing frequency. A commercial pilot talked to us on an air-to-air common radio frequency; told us he had just taken off from Guam, and that we should have no problems. We pressed on, oblivious to the havoc Samoi soon would unleash.

We approached Guam at 10 p.m. There was no ATIS—the field had closed because of the worsening weather. Approach control was still up and running. We arrived overhead with 7,500 pounds of gas, about what we had expected but certainly not enough to go anywhere else.

Typhoon Samoi had slowed and moved south. Counterclockwise, swirling bands of severe thunderstorms had begun to fill in on its backside. Though the storm center was 150 miles to the north, the typhoon encompassed an area 600 miles across and 1,200 miles long.

Both airports in Guam have long, dual runways that run from northeast to southwest. The wind that came roaring in with those backfilling storms was almost straight out of the west, at times reaching 80 knots. Those treacherous winds kept us from shooting an ILS approach. A precision approach would have placed us well outside the tailwind limits for the aircraft.

We set up for the TACAN 24, non-precision approach to Anderson Air Force Base. We would

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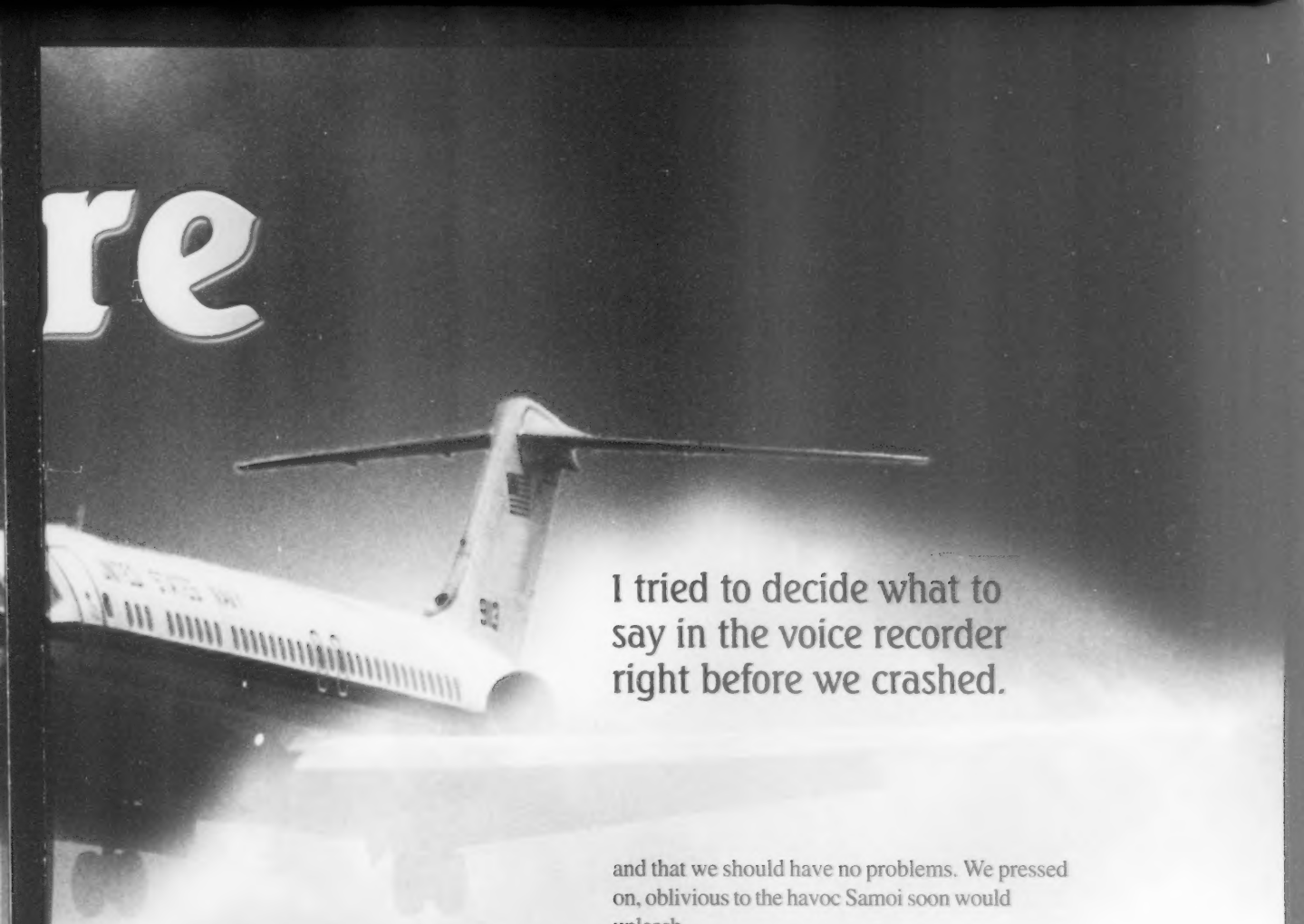

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landed with 6,500 pounds of fuel, just above the legal planning limit of 6,000 pounds.

Again we refueled. We were losing daylight by flying east, and it was now dusk in the Philippines. Again, I hauled out my credit card and called to recheck the weather. There was a chance of light rain later that evening in Guam, but we didn't expect any real problems. The next leg was projected to last three hours and 20 minutes, so we were confident we'd have fuel to spare. There are two major airports on Guam, even though it is a small island. This is important for a C-9, because almost every time we fly to an island, we don't have enough fuel to go anywhere else. That was certainly true this night. This leg was business as usual, legal by every naval aviation regulation. I would have flown it with my family in the back.

We took off in the deepening twilight, maneuvering to avoid the storms that the radar picked up with increasing frequency. A commercial pilot talked to us on an air-to-air common radio frequency; told us he had just taken off from Guam, and that we should have no problems. We pressed on, oblivious to the havoc Samoi soon would unleash.

We approached Guam at 10 p.m. There was no ATIS—the field had closed because of the worsening weather. Approach control was still up and running. We arrived overhead with 7,500 pounds of gas, about what we had expected but certainly not enough to go anywhere else.

Typhoon Samoi had slowed and moved south. Counterclockwise, swirling bands of severe thunderstorms had begun to fill in on its backside. Though the storm center was 150 miles to the north, the typhoon encompassed an area 600 miles across and 1,200 miles long.

Both airports in Guam have long, dual runways that run from northeast to southwest. The wind that came roaring in with those backfilling storms was almost straight out of the west, at times reaching 80 knots. Those treacherous winds kept us from shooting an ILS approach. A precision approach would have placed us well outside the tailwind limits for the aircraft.

We set up for the TACAN 24, non-precision approach to Anderson Air Force Base. We would

Photo-composite by Patricia Eaton

come in over the ocean, cross a cliff several hundred feet high and touch down on the runway atop the cliff, less than a half-mile from the edge. On a clear day, it can be an eye-opener. On a night like this, it can kill you. One windshear downdraft at the wrong time and not only will you not clear the cliff, you might never see it coming.

If you've ever had to pull your car to the side of the road during a heavy downpour, you can relate to the conditions that night. Now imagine yourself moving at 150 miles an hour and not being given the luxury of stopping. The rain was horizontal. We could not see three feet ahead, let alone the half-mile required to land at that speed. On the first approach, an 80-knot windshear took our speed from 150 to 230 knots in two seconds. A go-around was mandatory.

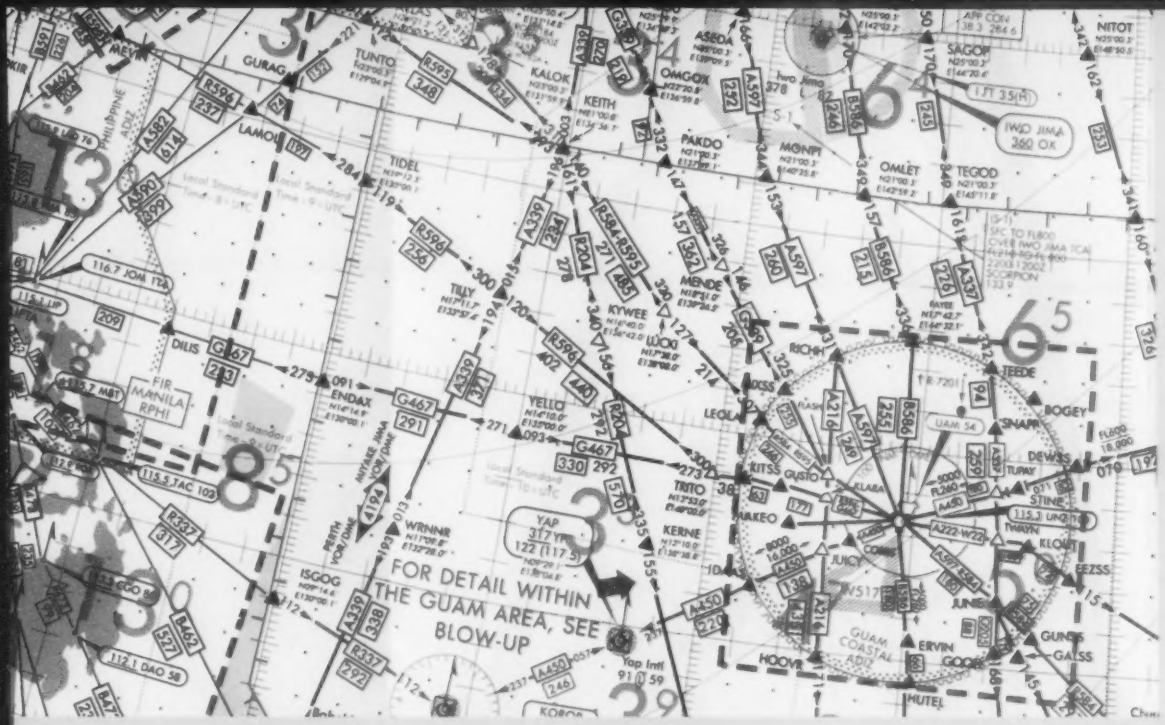
The second approach had a little less windshear. The radar showed nothing but red on the 30-mile scale. We normally don't even fly *through* red, let alone land in it. According to Approach Control, we had been over the end of the runway both times, but we never saw a thing. Fuel was now 5,000 pounds.

I was ready to start bending the rules because I had to get closer to the ground to have any chance to land. I opted for a downwind ILS, landing in the opposite direction. We began the approach with the autopilot locked on ILS, despite the out-of-limit winds. The GPS showed a 40-knot tailwind (the limit is 10), but I was out of ideas. At around 250 feet, we got the one that always gets you in the simulator: the minus 40-knot windshear. You instantly lose the airflow over the wings that keeps you airborne. The aircraft can stall and fall and there is nothing you can do about it. Our airspeed went to around 100 knots. We would have died if it had reached 95. I clicked off the autopilot and shoved the throttles to the stops, trying to initiate a textbook windshear recovery. I actually saw runway lights at one point. But we couldn't land with that combination of airspeed, windshear and visibility. We would have crashed on the runway. We went around again.

I got clearance to Guam International, 20 miles away. The fuel was now 4,400. We declared minimum fuel. Approach asked for "souls on board," and we knew that was so they could tell the rescue teams how many bodies to look for. The controller said his radar showed the weather getting worse.

We were cleared for our fourth approach, a VOR/TACAN 24 to Guam International. So far, all the approaches had been backed up by the copilot, using home-made GPS approaches, and he was calling out centerline deviations. I had been flying real instruments, not computer-generated ones. Approach called the position of the actual terrain obstructions (to our left) and gave us unofficial help for centerline, although he did not actually have "precision radar" and could not "legally" do it. I recognized his calls for what they were and started cheating 50 to 100 feet on the minimum descent altitudes. We still couldn't see anything forward. We went around again.

The TACAN went out of service sometime during the go-around, so we were cleared for the NDB approach to runway 24, the only one left for us to use. The fuel gauge read 2,800 pounds. Going around is not recommended



below 1,500 pounds in the C-9 because the deck angle may cause the engines to flame out. We turned on all the fuel-tank pumps, even in the empty tanks, and opened the fuel cross-feed. We had been over the end of runway every time; we just hadn't been able to see it. We went around for the fifth time.

We had enough gas for one or two more tries. I tried to decide what to say in the voice recorder right before we crashed.

As we asked for early turn-in vectors to the NDB, the crew chief (whose birthday was that day) asked, "OK guys, what are we going to do now?" I decided to couple up the NDB approach on the GPS computer with the autopilot—an unauthorized, untested technique that allows the computer to fly the aircraft without outside reference. I flew to 100 feet below the approved minimums on autopilot-altitude hold. This allowed me to look outside without concentrating on the instruments. We drove in and caught our first break, a gap in the waves of thunderstorm cells rolling across the island. We saw the ground, and, for the first time, saw the runway at three-quarters of a mile.

I immediately clicked off the autopilot and drove to 100 feet to avoid any possibility of going back into the clouds. We were still in moderate rain. In close, I pushed it over. We picked up a 40-knot windshear 30 or 40 feet from the end of the runway. I continued to push the nose down, willing to have it hit if I had to, but I managed to level out at five feet and, incredibly, ended up with a smooth touchdown. The antiskid released several times as we hydroplaned on the rain-soaked runway. We stopped on centerline with 3,000 feet remaining. We sat there for a minute. Then the torrential rain closed back in, and I could not see to taxi. The fuel was 2,000 pounds. Riotous applause erupted from the back. They had known we were in trouble, but the three of us in the front knew we had enough gas left for only one more pass.

Thirteen civilian airliners had received the same weather report as we did that night. They all started out expecting to land at Guam, and they all carried enough fuel to divert to Tokyo, Manila or Okinawa. In other words, they had an extra 30,000 pounds of gas. That's what we had started with. All 13 diverted to their alternates, some before an approach and some after. We were the only aircraft who made it in that night (or the next 24 hours).

Around midnight, as we pulled into the gate, our crew chief looked around the cockpit and said, flatly, "Well, it looks like I survived another birthday."

We parked with 1,700 pounds of fuel. The APU flamed out 45 minutes later. We actually had less than 500 pounds of usable fuel remaining on touchdown.

Will I ever fly around the Far East with the Navy again? Absolutely. Will I ever fly to an island destination that has a tropical depression nearby? Not on your life. Sometimes even your best isn't good enough.

Three days later, we made our way back to Atsugi. As we climbed down and walked away from the aircraft, I turned around. Sitting all by himself, up on the tail, was a big, old black raven. I could swear he winked at me and whispered, "Nevermore."

Cdr. Delancey is a C-9B pilot with VR-52.

The Night the New Guy Almost Died

by Lt. Paul Lanzilotta

It was a typical night hop during the first month of cruise: a double-cycle, surface search and coordination (SSC), and air-intercept control (AIC) mission. Although our E-2C crew was all junior officers, three members did have cruise-experience. During the briefing, when it came to the hot-pump and crew-switch bullet, our junior 3P covered it with the routine, "We don't plan to do this tonight." We completed an otherwise solid NATOPS brief before heading to the airplane. Right on time, we left the ready room and walked to our mighty Hummer, pumped up and ready to kick some butt.

The mission progressed smoothly. Our newest crew member controlled fighters on one event, then sea searchers on another, without much difficulty. Since he arrived at the squadron just before the cruise and this was our first flight together, I did not know much about him. He seemed very knowledgeable, which was typical of a recent FRS graduate. He acted appropriately intimidated by the whole "fleet naval aviation" thing, but he performed competently. I knew he would fit in at the squadron and become a mission commander in a couple of years.

The highlight of the mission occurred during the recovery phase. Before checking into marshal, we found out we were a hot-pump and crew-switch. I thought, "Well, I guess we should have briefed it, but it's too late now." The procedure is not outlined in NATOPS but is described in our squadron SOP. During the hot-pump, you shut down the starboard engine, pump fuel through an access in the engine nacelle, then re-start the engine. During a crew-switch, the crew members, excluding the mission commander (CICO) and plane commander (CAPC), exit the aircraft, walk slightly aft, then straight out the wing line to the awaiting oncoming crew. The new CICO and CAPC then enter the aircraft for a passdown. The old CICO and CAPC exit, and finally, the three junior members of the new crew enter the airplane. The evolution involves four sets of crew members entering and exiting the aircraft. Do this on the flight deck of an aircraft carrier at night, with wings folded, parked right next to the foul line of the landing area, and you have a dangerous situation. Doing this procedure at sea is very different from during the day at the FRS.

After landing with an OK 3-wire (thanks, Paddles), we folded our wings and taxied to a spot in the crotch, right next to the foul line. The ship rocked us a lullaby as we were chained to the deck. Our pilots completed the secure checks. We discussed the crew-switch. I remember telling our new guy to be very careful getting around the chains that are usually in the exit path, near the engine and wing fold.

A few minutes after my crewmates shuffled past me toward the exit, our XO stepped into the

Photo by J. Scott Campbell
Photo modification by Allan Amen

I looked him in the eye and asked, "Do you know how close to death you came tonight?"

airplane and dropped into the seat in front of me like he already had been through a double cycle. Usually, he is a very animated fellow who would be eager for information about the mission and aircraft status. That night, he put his head in his hands and rubbed his brow. I thought, "That's odd." He hooked up to ICS. Then he looked at me and told me our new guy had exited the airplane, gone out past the nacelle, turned, and walked forward, directly toward the propeller, which was spinning at 1,100 rpm, with enough momentum to turn a human into kibbles 'n bits. Apparently disoriented, he got past the prop-arc safety chain. With a quick move, the oncoming CAPC grabbed our new guy as he approached within three feet of the prop and pulled him back to safety. After debriefing with the intel bubbas in CVIC, I sped back to the ready room and looked for my shipmate. Our new guy was waiting for the rest of the crew so we could debrief the flight from simple start to frightening finish. I looked him in the eye and asked, "Do you know how close to death you came tonight?"

What did we do wrong? Well, our first mistake was restricting our brief to only those items we planned to do. This strategy is especially important to avoid with a new member of the squadron. Brief and plan for the contingencies; take into account the experience level of the whole crew. If we had, we could have saved our new guy the heart-stopping experience of facing spinning death. If you're a new member of a squadron, ask questions if you aren't sure of a procedure or plan of action. The other members may not realize the need for clarification unless asked. Most of all, when stepping out onto the flight deck or flight line, evaluate your surroundings and focus every cell in your body to complete the mission *and* return to the ready room without harm to yourself or crew.

Lt. Lanzilotta flew with VAW-121 and is now with USNTPS.

Fog, ice and an ELVA

by LCdr. Krist Zimmerman

As the only pilot on a Lynx "flight" (the British Royal Navy term for "detachment"), I was tasked to fly in all kinds of weather on all types of missions. I thought my Lynx training in the typically rainy, foggy and windy British weather had prepared me for everything. I had launched and landed in sea state 5-to-6 conditions for initial DLQs, during day and night.

I'd flown my QHI check (NATOPS check) in 500 and 1 conditions and worse. And I'd conducted night USW-SUW missions at 100 feet and 120 knots—sans goggles. Before my seven-month deployment patrolling the Falkland Islands and surrounding areas, I thought I was ready.

I woke up one day to an awesome, CAVU morning. Anchored in Grytviken Harbor in the South Georgia Islands (roughly 900 nm ESE of the Falklands), we prepared to fly fishery-protection patrol around the northwest side, looking for illegal fishing boats. The weather brief included a dew point spread of one to two degrees, a water temp of 9 degrees Celsius, and a high-pressure system hanging over the area. I could see a dense fog bank just outside the entrance to the harbor. Since I also was trained as the ship's weather guesser, I recommended that even though the weather seemed great over the islands, we should not fly until the fog burned off. Everyone concurred.

The ship pulled out of the harbor into the fog. While we waited in the hangar, the CO called down and told us to launch because the weather had improved to approximately 500 and 3. I looked outside, saw he was correct, and informed him this was the proverbial "sucker's gap." Upon further discussion with the flight commander and our flight observer (known as FLOBS) under training, we

Photo-composite by Patricia Eaton

—Who Needs ORM?

decided to launch and increase the ship's radar coverage of the area. FLOBS and I launched to starboard and pulled power straight into the clouds at 200 feet. After descending to 100 feet and out of the clouds, we elected to continue because our radar was working, visibility was three miles, and we were the only aircraft within 900 nm. Oh, I forgot to mention why we needed radar: The several hundred icebergs in the area reached up to 300 feet. We thought it would be a good idea to know where they were.

Forty-five minutes later, we found ourselves once again in and out of the fog. "Are we clear of all the icebergs?" I asked FLOBS.

"Yes we are," he replied. We slowly descended to 50 feet (minimum height for Lynx missions over water) as the cloud base kept lowering. At 50 feet, we were in continuous fog. What to do, what to do, what to do? Climb, climb, climb! We climbed up through 2,000 feet with no clear sky in sight. I'd had enough and leveled off, because the winds were causing us to crab significantly. I called the ship and informed them we were RTB. They replied, "CO concurs with your RTB. We're in a fog bank. Recommend ELVA [*Emergency Low Visibility Approach*] recovery." Great!

FLOBS gave us a steer to mother and kept us away from the icebergs. As we approached our ship, we asked for the ELVA with smoke lights. They were waiting for us and took control while FLOBS monitored our progress on radar. Our aircraft controller brought us in exactly on lineup, with only minor corrections. Slowing to 40 knots and leveling at 40 feet, we came upon the first of five smoke lights. Normally we should've had the ship in sight after the fourth smoke light, but we didn't. We saw the fifth light and continued to motor forward at 40 feet. Our aircraft controller asked if we could see the flight deck yet. We looked out the window. No dice.

Just as we were about to wave off to try it again, I caught sight of the top of the hangar through the chin bubble. "Hangar in sight. We're comin' down," I radioed back. I glued my eyes to that spot. We slowly lowered our hover and let the ship pull away. With the flight deck now partly obscured but indeed below us, the tension in the cockpit eased. After an uneventful landing and shutdown, I vowed never to get suckered in by the weather, or the perceived need to complete an unwarranted mission. A very worried looking flight commander waited for us in the hangar. "I'm so glad you're back safely," he said. So were we.

Oh, I forgot to mention why we needed radar: The several hundred icebergs in the area reached up to 300 feet.

Initially, I was skeptical of ORM upon its inception. However, now that I think about all the bonehead things I've done or have seen others do, I know ORM could have increased my awareness of those hazardous situations. If an ORM tool, such as the Flight Risk Management worksheet we use in HSL-43, would have been available that foggy day, I would've been sitting in the ship's wardroom drinking a Guinness and staring at the fog, rather than flying through it.

LCdr. Zimmerman is the safety officer at HSL-43. This event occurred while he was attached to HMS Northumberland flight as a Navy Personnel Exchange Program Officer in 1996.

Speechless

by Lt. Anthony Bilotti

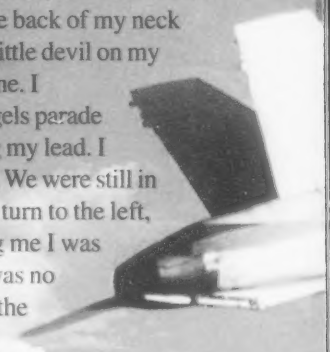
It was a beautiful day for blue-water operations near the equator: a scattered layer at 2,000 feet and isolated build-ups in the vicinity. The mission was to bomb and strafe the ship's spar, basically a huge piece of wood towed 800 feet behind the aircraft carrier. With two cruise-experienced JOs flying, the hop was destined to be a rage-ex. I was looking forward to a quick coordination brief, some great bombing and strafing, maybe a fly-by, an OK 3-wire, and taco Tuesday for chow.

As I was sitting on the catapult waiting to launch, I noticed the weather changing. That wasn't a big deal—the ship always seemed to find weather for launches and recoveries. I launched before my lead, climbed overhead to our squadron's holding altitude, and waited for him. After joining, we commenced runs on the spar and climbed back to altitude to await our recovery. As we held overhead, I noticed towering cumulus build-ups within several miles of the ship. The weather was CAVU outside this area. What was expected to be a Case I recovery was now Case II. So much for the extra gas we were going to use for a fly-by.

We received our marshal instructions and descended from high holding to the marshal stack. My flight lead had planned to push from high holding to our marshal-stack altitude and position with about a minute of holding until our push for the ship. However, just after arriving in the stack we heard, "Ninety-nine, stand by new EATs." We held at 9,000 feet and waited for our new push time. Our marshal radial now seemed to be right in the middle of the cumulus build-ups. My lead did a good job weaving between the build-ups to maintain position and interval in the stack.

A couple of minutes before our EAT, my lead began a left turn back toward the ship to maintain timing, which would bring us through what appeared to be a small build-up. "Sorry to drag you through some clouds, but I have to for timing," he said. At that moment, I was on my lead's left side with my mask off. I considered putting on my mask, but I was a salty, second-cruise guy.

I had flown formation in the nastiest weather, day and night, and the build-up we were going to penetrate didn't look that bad. I tightened up into parade, ready to suck some LAU. We penetrated the weather at about a 30-degree left angle of bank. At first it wasn't bad, but after about 15 seconds, it started to get darker, and the clouds thickened. The hairs on the back of my neck were standing up, and the little devil on my shoulder was laughing at me. I tightened up into Blue Angels parade and still had trouble seeing my lead. I quickly developed vertigo. We were still in a 30-degree angle of bank turn to the left, but my senses were telling me I was straight and level. There was no time to take my hands off the controls to put on my mask.



As we held overhead, I noticed towering cumulus build-ups within several miles of the ship.

I wrongly figured that it would start clearing up quickly since the cumulus build-up didn't look too thick. The heavy rain turned into a thin sheet of ice on the forward part of the canopy. We were still in a left turn, I could not see my lead's jet, and, with

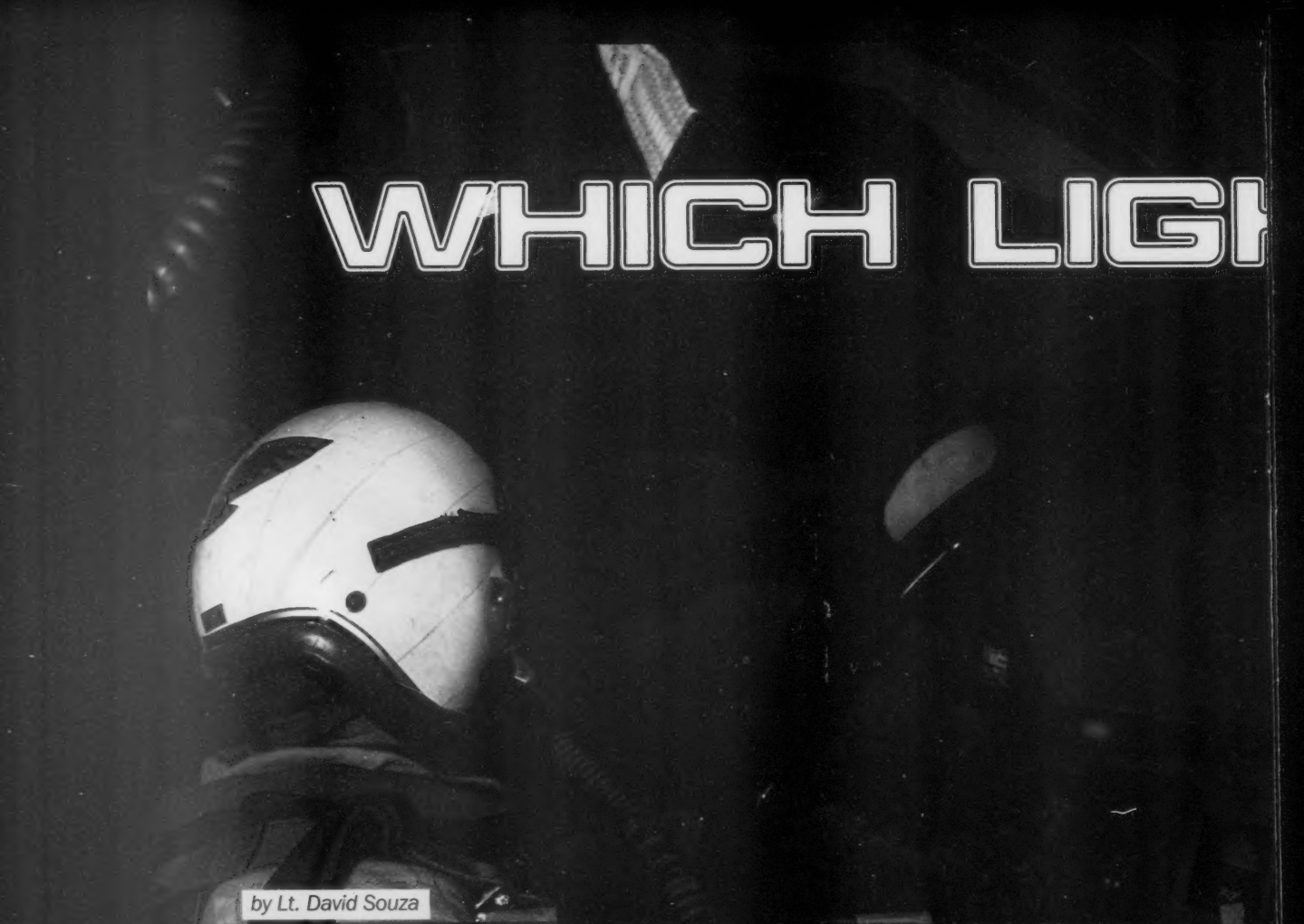
Photo-composite by Patricia Eaton

my mask off, I had no way of communicating that to him. Since my vertigo was telling me I was straight and level, I immediately pushed the stick into the DDI (I even heard a little AOA tone), rolled wings level, put on my mask and began de-conflicting altitudes and headings with my lead. About a minute had elapsed since we had entered the "insignificant" weather.

This experience taught me three lessons. First, avoid cumulus build-ups. Second, remember the basics and have a way out if you lose sight of your wingman. Third, and most important, no matter how salty you think you are, always adhere to OPNAV 3710.7R, paragraph 8.2.4.3: "Tactical jets–O_2 shall be used by all occupants from takeoff to landing."

Lt. Bilotti flies with VFA-151.

WHICH LIGH



by Lt. David Souza

Just another night in the GCA pattern before another at-sea, work-up period. A few quick trips around the pattern, a period in the LSO shack, and I'd be home by nine. No sweat.

We launched into the beautiful Whidbey night after being drenched during preflight. On the third pass, I let the nose drop and showed paddles a less-than-pristine effort. As I lifted off, I shouted an expletive over the ICS, which got the attention of my lone back-seater, who thought something was wrong. I reassured him I was just venting at my ball-flying abilities; we had a good laugh.

On pass number four, I wasn't going to let the ball or nose drop, so I concentrated on them all the way down. I touched down with a centered ball and started to climb. I raised the gear handle and was ready to praise my flying skills when the left engine-temp light illuminated. I used the same expletive as on the previous pass. The left engine-fire light illuminated about a second later, and I turned the jet downwind.

Now, try as hard as they can, the multi-place aircraft FRSs cannot beat the single-seat mentality that is ingrained in every pilot during an emergency. I secured the left engine and bleed-air valves, then raced through the single-engine-landing checklist faster than you can say "NATOPS." The jet was configured and ready to land with flaps at 20 degrees, RAT out, and hook down, before we got through 90 degrees of turn.

My right-seater asked, "What are you doing?" when he realized the left engine was winding down.

I told him we had a left engine-fire light.

He said, "Gang bar off." This is first step in any Prowler fire or temp emergency. My mind went back to reality. I told him the engine and gang bar were off, and that he should declare an emergency, and switch tower. I started going over the checklist again in my mind. The fire lights went out, and I breathed a little easier. I heard him tell tower we were abeam and landing. What had I forgotten?

Photo composite by Katrina Eaton

THE PAPER AND INK USED IN THE ORIGINAL PUBLICATION MAY AFFECT THE QUALITY OF THE MICROFORM EDITION.

HT WAS IT?

Oh yeah! "Fire light depress" was step 3 in the fire-light checklist. When you press the fire light, you discharge an engine-bay halon system, which helps extinguish fires. But with seven fire and temp lights, which one was the left? I couldn't tell because it had gone out, and I never took the time to memorize the position of each fire light.

I moved on to important things, such as the landing checklist. "Hook down, three do... Oops! Gear's coming." Glad I caught that one. With the jet now configured, I had my right seater shine my Grimes light on the fire lights. We were passing through the 90. The backseater notified tower we were taking an arrested landing. I peeked at the runway and realized we were going to overshoot centerline, big time. I went to mil, stepped even harder on the left rudder, and overbanked the jet. I looked down at the slip ball, of all things, and realized my folly. Always step on the good motor! A voice in my head said, "No chance Paddles, wave off." Centerline had come and gone, and there was still no end to the turn in sight. The arresting gear was 1,800 feet down the runway. I told my rightseater I was not going to fly the ball—I was going to set it down just before the gear. Meanwhile, he was shining the light on the fire lights, and I still could not distinguish between them. I told him to forget it and to lock his harness.

The landing was uneventful. Before we got to the cable, I found and depressed the fire light, completing my end of the bargain. The jet stopped, and I just sat there. "Are you getting out?" asked my right seater.

"You bet," I said. I shut down and climbed out on the wing. It was wet, and I couldn't figure out how to get off without breaking my leg. I had practiced this a couple times on my own but always with the slats up. With them down, it now seemed impossible. Luckily, the fire crew was right there and lowered the ladders.

After we found no residual fire, we opened the engine bay and inspected it. We found a broken fuel-line drain and some melted, blistered wires. One of our plane captains arrived, and I rode brakes for him back to the line.

Maintenance determined the cause of the fire was a failed weld on the engine-bleed-air line. The failure occurred between the engine and the bleed-air-shut-off valve. This could have had catastrophic results, despite my flying abilities. The bleed air comes out of the engine at a temperature much higher than the flash point of JP-5, which had been dripping on the inside of the engine bay from the disconnected fuel-drain line.

My rightseater assumed I worked out a deal with Paddles to turn downwind after my fourth pass. Neither one knew we had an emergency until my rightseater asked what I was doing. He immediately did what he was trained to do and stated the boldface. Without him saying "gang bar off," I'm not sure my mind could've juggled all the checklists. A single-seat mentality isn't all that great for single-seat aircraft, but for multi-place, complex aircraft, like the Prowler, aircrew coordination is a must.

I secured the left engine and bleed-air valves, then raced through the single-engine-landing checklist faster than you can say "NATOPS."

Memorize the location of the important fire lights. You might need to press some of them even if they go out and you can't see them.

Lastly, learn how to get out of your jet quickly without the help of the boarding ladder or ground crew. I thought I had it suitcased. I had practiced sliding off the slats, onto the drop tank, then down. The thought never even crossed my mind that the slats would most likely be down if I had to egress. I since have learned to slide down the flaps onto a pod.

Lt. Souza flies with VAQ-131.

Pitchlocke

by Lt. Todd Linskey

Propeller malfunctions result in some of the most complex emergency procedures in the P-3 community. When operating normally, the hydraulic prop governor changes blade angle to maintain engine rpm. When the governor fails, the blade angle becomes fixed, and engine rpm becomes a function of the aircraft's true airspeed. If true airspeed becomes too great, you run the risk of a catastrophic failure. If it is allowed to become too low, the engine will flame out. Therefore, no prop malfunction is ever quite the same as the last, making system knowledge and crew resource management (CRM) more critical than ever.

It was one of the first, cool, fall days at NAS Whidbey Island. Temperatures were just above freezing and the skies unusually clear—perfect for the EO and Maverick missile training our crew had scheduled. However, it was also just the type of weather that strains weary propeller seals on aging P-3s. Before starting engines, the flight station copied ATIS with the OAT reported at two degrees Celsius. NATOPS procedures call for starting all motors in low rpm and allowing them to warm up for 10 minutes when outside temperatures are below freezing. This allows engine oil and prop hydraulic fluid to reach operational temperatures, which keeps the seals from leaking. Since we were deploying in December to Misawa, Japan, and OAT was near freezing, we opted to perform cold-weather-start procedures.

After startup and takeoff checks were completed, YB-934 launched to the east out of Whidbey Island for Mountain Home AFB, Idaho. After Condition IV checks, all systems were reported as ops normal. However, that wasn't quite the case.

Passing 7,000 feet, the flight engineer called, "Prop pump No.1 light on No.4 engine." At the same time, a second aircrewman reported to the off-duty flight engineer there was fluid spraying from the No.4 prop. The off-duty FE inspected the prop and verified the leak. In the meantime, the copilot contacted ATC and requested an immediate

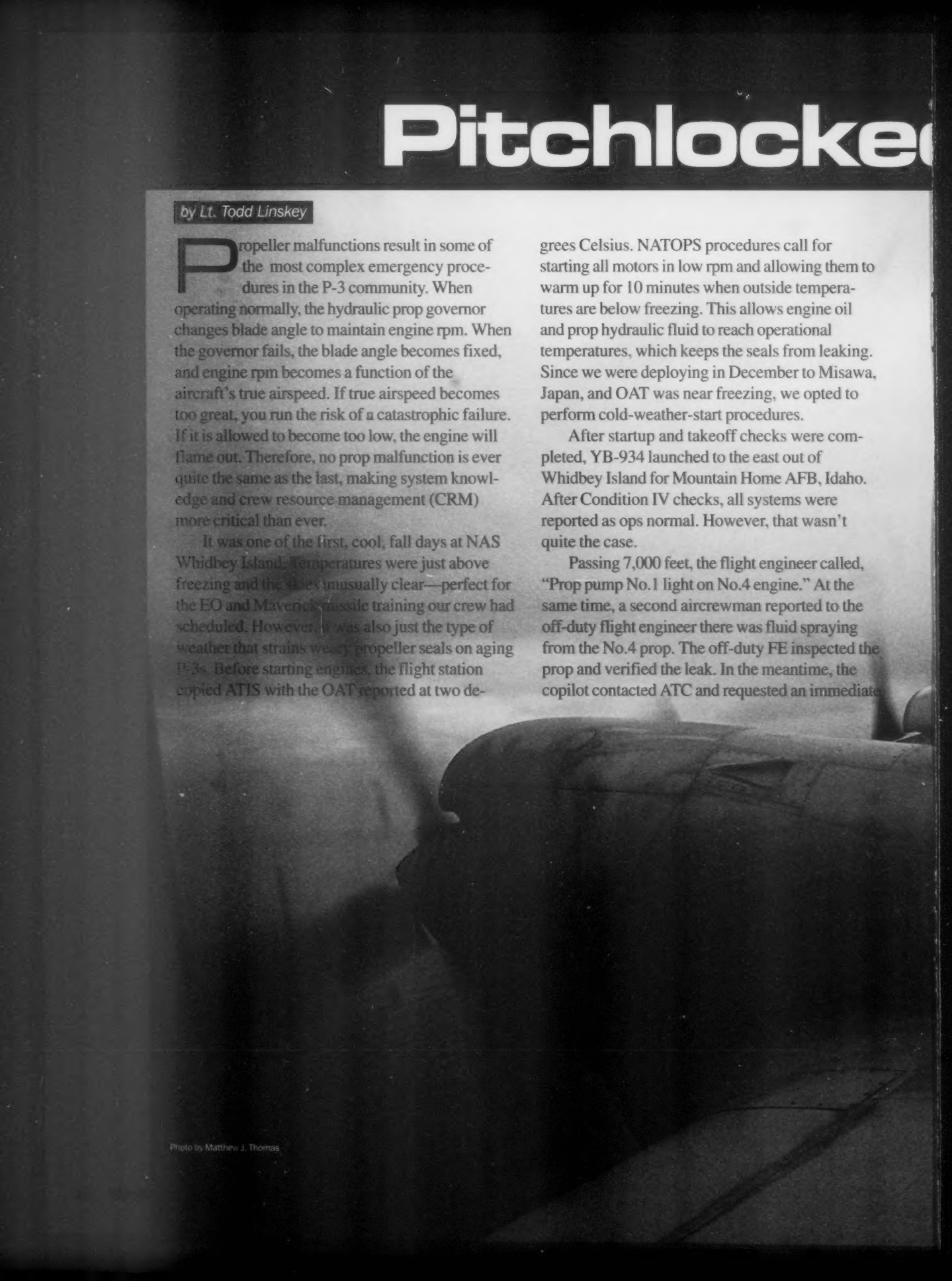


Photo by Matthew J. Thomas

d Propeller

level off at 9,000 feet and clearance direct to the initial approach fix for holding to troubleshoot. The flight station then prepared for the prop to pitchlock.

Shortly after level off at 9,000 feet, the prop pump No. 2 light illuminated, and the prop went to 102 percent rpm. Within seconds, the hydraulic governor failed, and the prop pitchlocked at 104 percent, with the fuel-control-topping governor maintaining rpm.

The prop pitchlocked in a nearly optimal condition. The aircraft continued to accelerate while level at 9,000 feet prior to pitchlock, guaranteeing a high blade-angle (low-blade angles have a greater potential for decouple, which can lead to an uncontrollable oil fire). The aircraft was also at a relatively low altitude in VMC conditions.

After we got the prop under control and entered holding, the thinking game began. Immediately, ATC requested we descend to a lower altitude. We informed them we would be declaring an emergency once we were ready to initiate the approach, but they weren't giving us much slack. After discussing the situation, we requested a block altitude of 5,000 to 7,000 feet, which was approved. We completed the descent checklist, then prepared to secure the motor.

Level at 7,000 feet, the engine was approaching temperature and shaft horsepower limits. We were holding at 220 knots and couldn't slow down because then we would have been stuck at 7,000 feet with the engine at limit power. We briefed the approach, completed the approach checklist, and briefed the upcoming three-engine landing. We then discussed securing the motor and the three possible outcomes of securing an engine using the fuel and ignition switch instead of the emergency-shutdown handle (which would secure the engine and feather the prop). We wouldn't be able to feather the prop, and it would continue to rotate under an air load after the engine had been secured.

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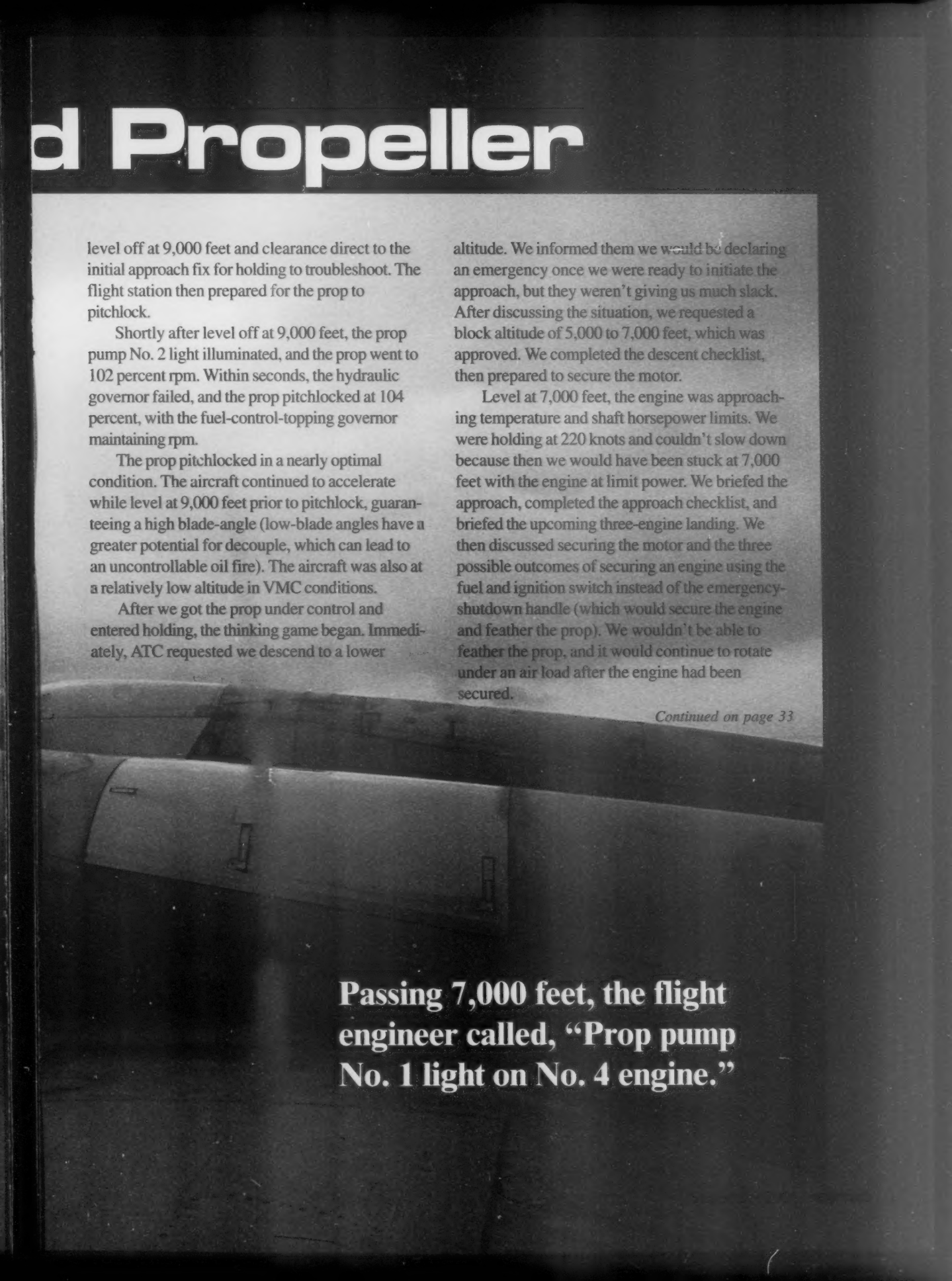

Passing 7,000 feet, the flight engineer called, "Prop pump No. 1 light on No. 4 engine."

Pitchlocke

by Lt. Todd Linskey

Propeller malfunctions result in some of the most complex emergency procedures in the P-3 community. When operating normally, the hydraulic prop governor changes blade angle to maintain engine rpm. When the governor fails, the blade angle becomes fixed, and engine rpm becomes a function of the aircraft's true airspeed. If true airspeed becomes too great, you run the risk of a catastrophic failure. If it is allowed to become too low, the engine will flame out. Therefore, no prop malfunction is ever quite the same as the last, making system knowledge and crew resource management (CRM) more critical than ever.

It was one of the first, cool, fall days at NAS Whidbey Island. Temperatures were just above freezing and the skies unusually clear—perfect for the EO and Maverick missile training our crew had scheduled. However, it was also just the type of weather that strains weary propeller seals on aging P-3s. Before starting engines, the flight station copied ATIS with the OAT reported at two degrees Celsius. NATOPS procedures call for starting all motors in low rpm and allowing them to warm up for 10 minutes when outside temperatures are below freezing. This allows engine oil and prop hydraulic fluid to reach operational temperatures, which keeps the seals from leaking. Since we were deploying in December to Misawa, Japan, and OAT was near freezing, we opted to perform cold-weather-start procedures.

After startup and takeoff checks were completed, YB-934 launched to the east out of Whidbey Island for Mountain Home AFB, Idaho. After Condition IV checks, all systems were reported as ops normal. However, that wasn't quite the case.

Passing 7,000 feet, the flight engineer called, "Prop pump No.1 light on No.4 engine." At the same time, a second aircrewman reported to the off-duty flight engineer there was fluid spraying from the No.4 prop. The off-duty FE inspected the prop and verified the leak. In the meantime, the copilot contacted ATC and requested an immediate

Photo by Matthew J. Thomas

d Propeller

level off at 9,000 feet and clearance direct to the initial approach fix for holding to troubleshoot. The flight station then prepared for the prop to pitchlock.

Shortly after level off at 9,000 feet, the prop pump No. 2 light illuminated, and the prop went to 102 percent rpm. Within seconds, the hydraulic governor failed, and the prop pitchlocked at 104 percent, with the fuel-control-topping governor maintaining rpm.

The prop pitchlocked in a nearly optimal condition. The aircraft continued to accelerate while level at 9,000 feet prior to pitchlock, guaranteeing a high blade-angle (low-blade angles have a greater potential for decouple, which can lead to an uncontrollable oil fire). The aircraft was also at a relatively low altitude in VMC conditions.

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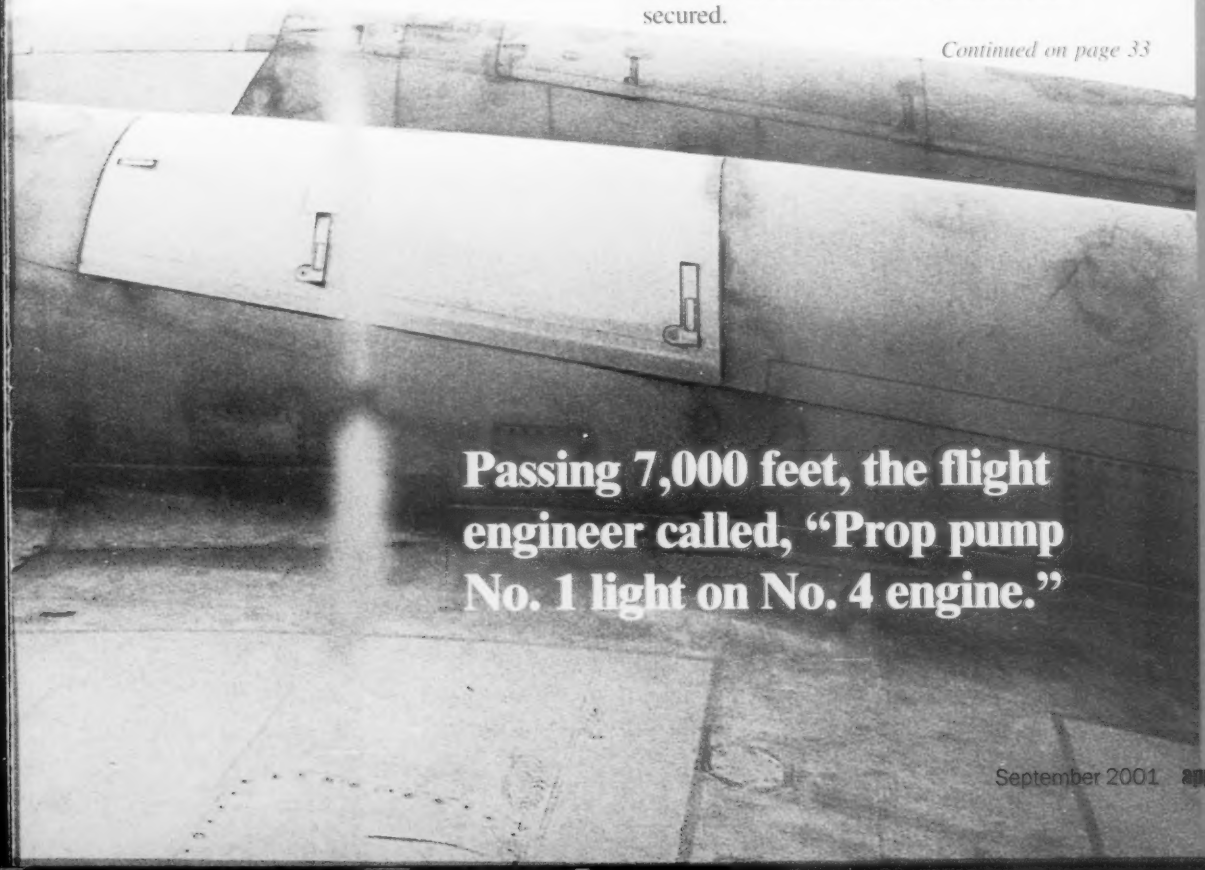

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The Tokyo Sk

by LCdr. Dan Cheever

Another routine hop to R116. Routine in that the delays and frustrations associated with operating from NAF Atsugi, Japan, had become the norm. It had been a great tour with great people. NAF Atsugi is eight miles inland of Sagami Bay, but surfers shouldn't get too excited, because the beach is at least an hour's drive, and a million people live between the runway and the beach. We brief emergencies and "what-if" scenarios in great detail.

As a senior Dambuster in VFA-195, I had the lead on an AIC hop. We briefed contingencies, including 45-minute delays at the hold-short and the crazy bingo number from the working area.

Nothing in my training or experience in Japan or aboard USS *Independence* (CV 62) could have prepared me for this flight. Everything was uneventful until the rendezvous.

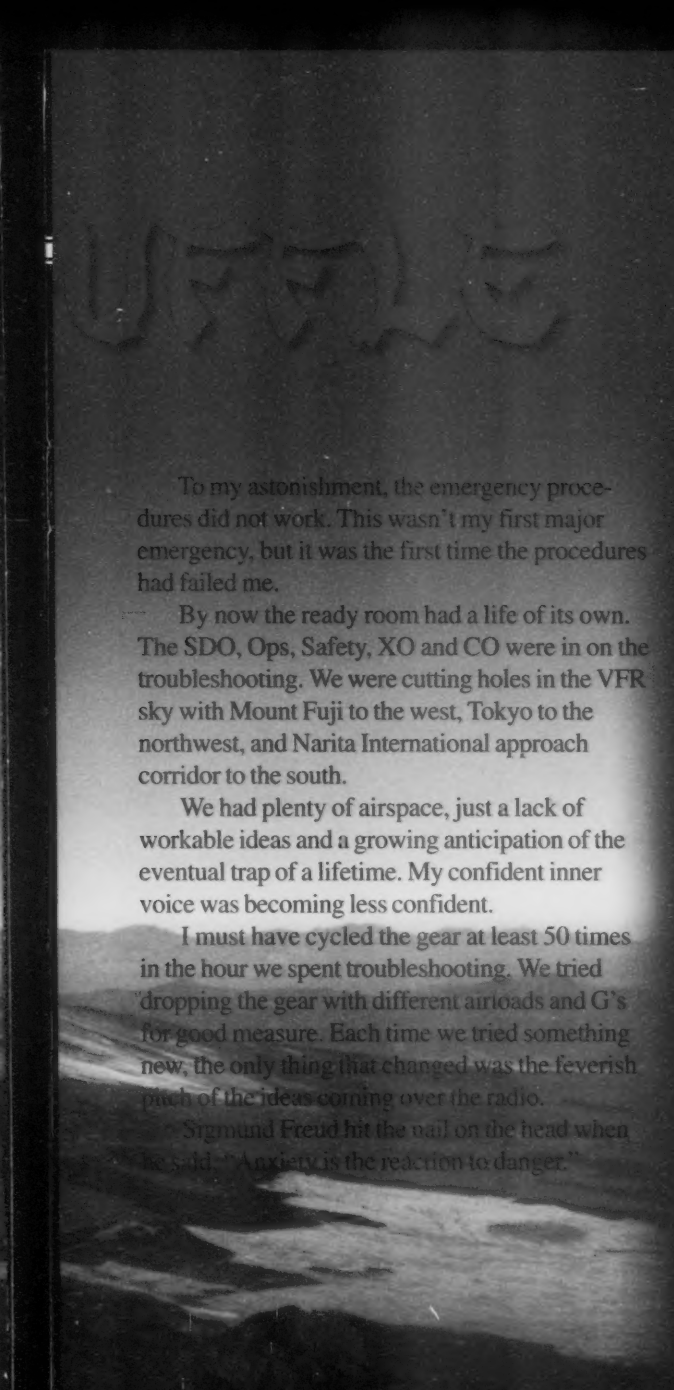
My junior wingman noted that my starboard, main-landing-gear door appeared to be open. "I'll cycle the gear once feet wet and we'll be on our way," I said to myself, overly confident.

With gear down, Dash 2 called, "Nose and left down, right up."

We were about five miles south of the Kanto plain, I was glad I had a full bag of gas to figure out this little problem.

Sigmund Freud hit the
he said, "Anxiety is the

Photo by LCdr. T. B Surbrodge



To my astonishment, the emergency procedures did not work. This wasn't my first major emergency, but it was the first time the procedures had failed me.

By now the ready room had a life of its own. The SDO, Ops, Safety, XO and CO were in on the troubleshooting. We were cutting holes in the VFR sky with Mount Fuji to the west, Tokyo to the northwest, and Narita International approach corridor to the south.

We had plenty of airspace, just a lack of workable ideas and a growing anticipation of the eventual trap of a lifetime. My confident inner voice was becoming less confident.

I must have cycled the gear at least 50 times in the hour we spent troubleshooting. We tried dropping the gear with different airloads and G's for good measure. Each time we tried something new, the only thing that changed was the feverish pitch of the ideas coming over the radio.

Sigmund Freud hit the nail on the head when he said, "Anxiety is the reaction to danger."

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A few times during the excitement, I turned base down to gather my composure and talk to the controllers. They were graciously keeping everyone out of my way as I flew over the dark blue Pacific Ocean. I'd always figured aircrew coordination was something multi-place aircraft did, not Hornet guys. That fact was evident in our handling of communication and procedures. What I know now, I wish I knew then! I was doing the Tokyo shuffle.

After numerous attempts, the gear finally broke through what turned out to be interlocked gear doors (a nut had been left unattached to the inboard gear door). The door swung on the one good attachment and caught the outboard door neatly enough to interlock.

We had finally rolled the aircraft right and then snap-rolled left while lowering the gear handle. The rolling probably had nothing to do with it, but we were desperate at that point.

As I rolled out, the remaining metal from the gear door harmlessly fell to the pavement. Lucky for the government and me, the metal landed on the runway and not on any houses.

It turned out that one of our best sailors and CDIs had not properly replaced the nut or noticed it was missing. I've never seen a more apologetic look in my life than I saw that day.

Since then, I've been to safety school, received ORM training and crew coordination training. We are making good progress in educating pilots, aircrew, and maintainers about aviation hazards. Any maintenance on a good jet can lead to unexpected problems. That's why cannibalization is one of the top-10 safety concerns.

Finally, the great Winston Churchill said it best when he said, "Never, never, never, never give up."

LCdr. Chavez is the VFA-147 Safety Officer.

THE TOKYO SK

by LCdr. Dan Cheever

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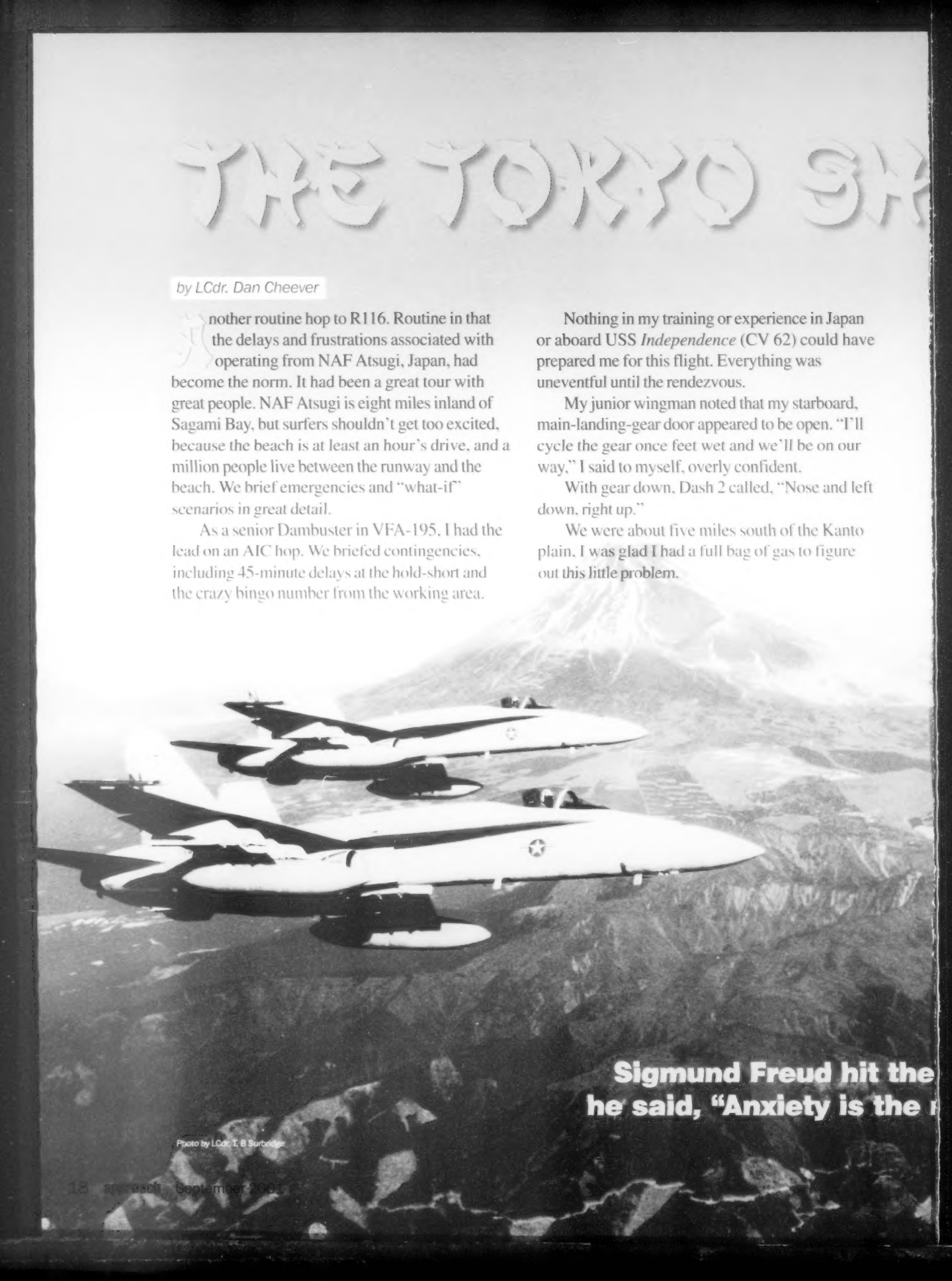

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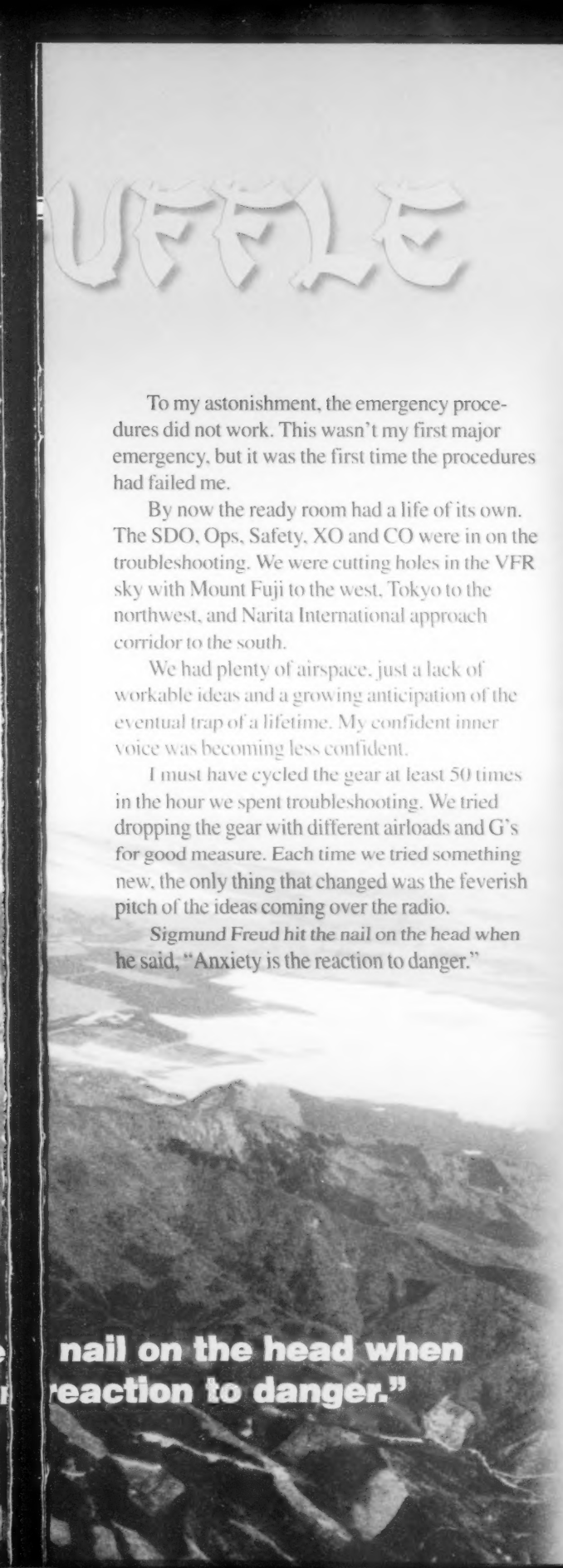

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My Hea

PRESSURE

by Lt. Przemyslaw J. Kaczynski

I had just walked into the flight surgeon's office early in the morning, eager to get back on the flight schedule. For the last four days I had been med down with a head cold. The doc had prescribed the usual doses of meds, tons of liquids, and the dreaded "healing chair" duty.

Fortunately, I had missed only one dedicated fly day as the carrier steamed southwest for WestPac. Our air wing tempo was unusually slow during the transit, and a number of us were close to losing our night quals. While I was med down, my night qual had expired. I needed to get a day and night trap to reclaim my qual. I had overheard some grumblings, from on high, how guys shouldn't need to be going med down when they're flying a plane with a pressurized cabin.

"Somebody parked an elephant in my skull and it stinks."

It was my first cruise, and as a nugget I was determined to be a reliable player. That's why I guaranteed my operations and schedules officers when I'd be flying again. Surprisingly, the nasal congestion, heat flashes, and coughing had come nearly to a halt on the morning when I was scheduled for two flights. Proudly, I walked into the doc's office and announced I was in shape to fly. I didn't have much trouble clearing my ears, although it was a little harder than usual. The doc did a couple of routine checks, saw I could clear my ears, and cleared me to fly. Like a proud owner of a hot-car pink slip, I waltzed right into the brief with my up-chit and set up the flight.

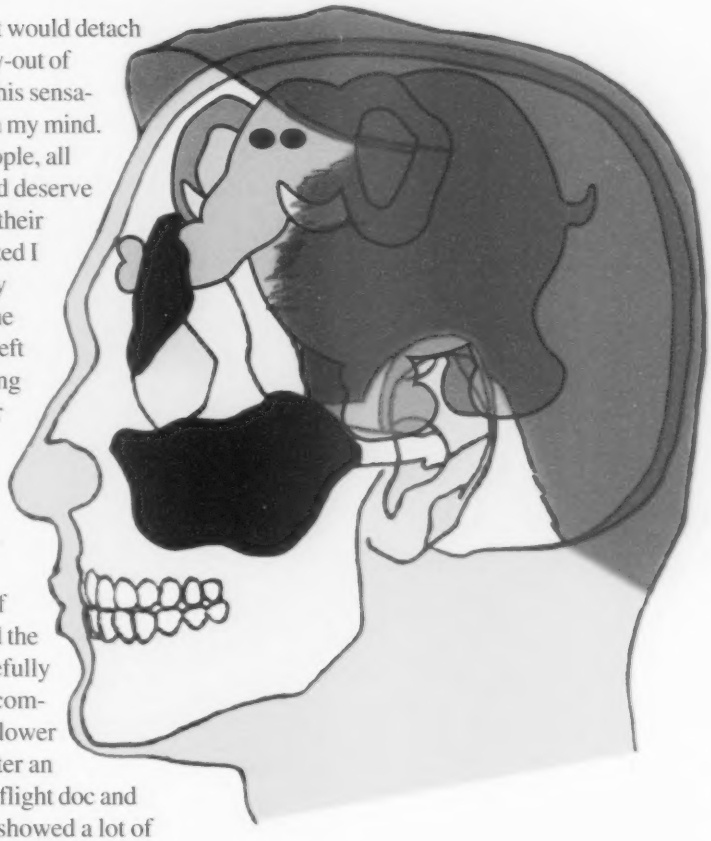
The hop was simple: the standard E-2 stationed at 18,000 feet in support of a gun exercise. Except for a trim malfunction off the cat-shot, man-up and launch went smoothly. After trouble-shooting and solving the trim problem, we continued as planned and started our climb to reach station. As expected, I could clear my ears as the aircraft pressurized to 5,000 feet. A little bit of jaw movement here, some preemptive valsalva over there, and my eardrums should be in great shape. We targeted our level off at angels 18.

Throughout the climb, my head felt a little clogged and tight. I thought, "The cabin pressure is only going to 5,000 feet. My head will adjust to the altitude." After about 30 minutes on station, my slight discomfort started to feel like a freezing ice pick jammed sideways above my left eyebrow. As I struggled to ignore it, I realized I was not going to contribute 100 percent of my situational awareness during this hop. My copilot (a cruise-seasoned pilot and plane commander) noticed I was unusually quiet on profile. He tried to talk to me, but my answers were abrupt. He started to see that I was focusing on something else, but I could tell he wasn't sure what it was. After 45 minutes, the ice pick in my skull had grown into a rumbling bulldozer. I decided to tell my copilot I was having a problem. "Man, I think I might be having a sinus block," I said. "Somebody parked an elephant in my skull and it stinks."

We decided that if the pain persisted or got worse, we would swap seats, allowing him to take the trap. I didn't want to be having that conversation since losing a trap during the day meant I wasn't going to be a night player. Besides, what would a single-seat guy do in scenario like this? Am I half the pilot they are if I give up the controls? These issues found their way into my pounding head as I continued in the pilot's seat. An hour after our conversation, any doubts about whether it was a good idea or bad idea vanished.

ad, the CHAMBER

Suddenly my left eyebrow felt like it would detach itself from my melon. A pulsing gray-out of vision in my left eye accompanied this sensation. A number of things ran through my mind. First, I was flying a crew of five people, all who have fine lives of their own and deserve the best pilot behind the controls of their $85-million aircraft. Second, I realized I had allowed pride to be a part of my ORM decision-making process in the last hour. Finally, with vision in my left eye acting strangely, how was I going to be sure the descent to the carrier wasn't going to make it worse?



I told my copilot I was feeling a lot worse. We told the crew we would have to swap seats. We also needed to tell our ready room to remove me from my upcoming brief and flight in the evening. I assumed the copilot duties, and we started a carefully executed Case II approach that accommodated my clogged up head. The lower we got, the better my head felt. After an uneventful recovery, I revisited the flight doc and underwent a series of X-rays that showed a lot of congestion in my upper and lower sinuses.

I kept asking myself how I could have gone flying in such a congested state. After a few weeks of healing and SDO duty, I had added a few items to my ready-to-fly philosophy. Never give yourself a deadline to get better. Your body will tell you when you are ready, and in the case of sinus infections or congestion, it can take a week or two. Don't let your mind trick your body into false health. Just because you can valsalva doesn't mean that you are OK to fly. There is no test, short of X-rays, that will tell you or the flight doc that you are ready to fly. When it comes to crew coordination in multi-crew aircraft, the crew must be comfortable confessing and assessing their own risk to the mission, aircraft, and crew members and come up with an intelligent response. In our case, the copilot was in a better state to perform a carrier landing than I was, no doubt about it.

Lt. Kaczynski flies with VAW-116.

by Ltjg. Juan Mullen

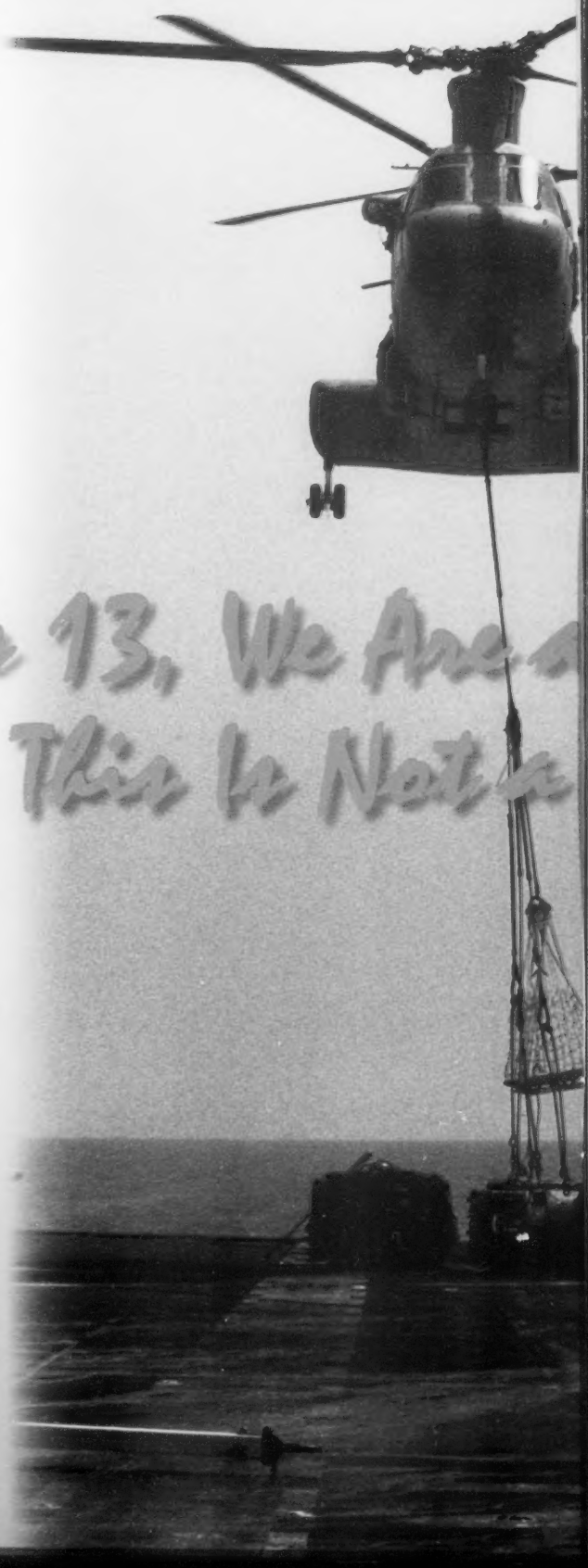
"Landslide 13, We Are 4 Quarters. This Is Not a

The first time a naval aviator goes to the boat is an exciting time. Landing on a moving platform validates all the hard work and training in flight school. I had heard that after finishing DLQs and returning to base, you often have a sense of relief that your next landing will be on a stationary platform. But, during my return flight, I felt everything but a sense of relief.

Our flight had started like any other. We briefed, preflighted, copied down important information from our overhead message, and walked to our aircraft. My HAC was a new FRS instructor, but he had over 2,000 hours in the aircraft, so I felt comfortable flying with him. After launch, we headed 280 to intercept the USS *Pearl Harbor*. The ship's TACAN wasn't working (problem number one), and after reconning two ships, we found the LSD. When we arrived overhead (on time, according to our message), we found the ship at least 20 minutes away from flight quarters. We entered starboard delta, burned gas and holes in the sky (problem number two).

Besides getting our deck-landing quals, we needed vertrep qualification. The ship did not have a practice load ready, adding 10 minutes to our holding pattern. In the ship's defense, prior to our arrival, they had landed and launched only one H-60 since coming out of the yard (problem number three). They improvised a load for us and gave us a green deck. I rolled out on final for my first shipboard landing. With the help of my outstanding crewchief, I crossed the deck edge and landed with a slight thud.

We realized that because of the delays, we only would have enough time and fuel to complete DLQs and vertreps for one student. Before the first student moved on to his day vertreps, we



would have to take a drink (problem number four). Not being the priority, I jumped out and went to the tower.

After six quick DLQs, the aircraft landed and the crew called for fuel. The fuel was rejected for having too much water. The grapes flushed the system and gave our crewman another sample. The second sample was better but still not good enough (problem number five). After flushing again, we got a good sample, and took our much-needed drink.

> There was nowhere else to go but home. This was the first time I ever seriously considered my ditching procedures.

The first student did great and completed his day requirements well before hitting bingo. Since sunset was still a ways off, we tried to get in my day DLQs. No sooner after I was strapped in, we noticed people scurrying around the deck. The tower informed us the ship was going to general quarters (problem number six). They wanted us to shut down. Wanting no part of the ship's emergency, we told tower we were ready for an immediate launch, and they accommodated us. We climbed out and once again entered starboard D. The HAC did a quick bingo calculation; we could continue to hold for 35 minutes before heading for North Island. At 30 minutes, we gave the ship a heads-up that we were approaching bingo, and they told us the ship's situation would be under control in a "few minutes." After a discussion with our crewchief, the HAC agreed to go below our bingo (problem number seven) as long as the ship guaranteed they would refuel us. The ship agreed.

Committed to the ship, we loitered well past our bingo to home base. At 10 minutes past bingo, the ship gave us a green deck, and we came in for fuel so we could hotseat the first student and complete his night quals. While we changed crews and waited for the grapes to give us another fuel sample, the No. 2 low-fuel light illuminated (problem number eight). I jumped out of the aircraft to watch night ops from the tower. Once again, the fuel samples were bad. The HAC did another quick fuel calculation and decided we could make it back to North Island with the fuel remaining.

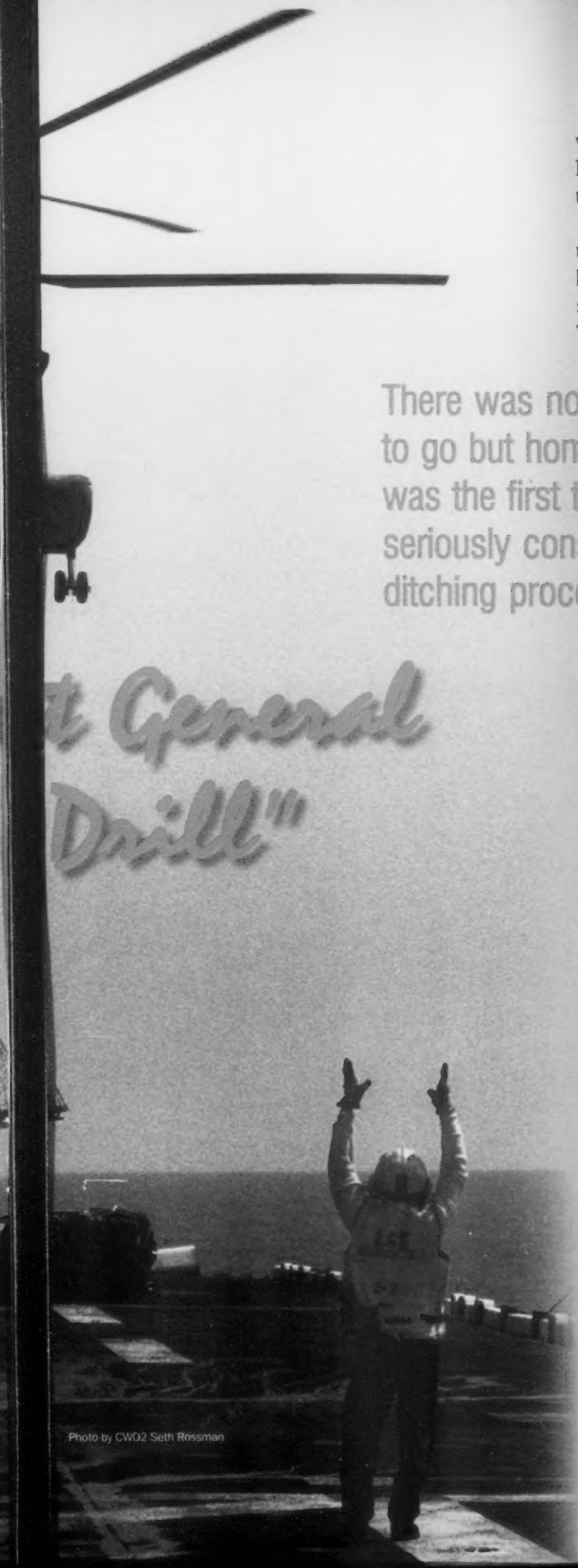


Photo by CWO2 Seth Rossman

From the tower, I could see Point Loma, but I also could see lightning strikes just to the south. I boarded the aircraft and we launched for home. The weather to the south of North Island had been deteriorating (problem number nine). I assumed the crew had taken the weather into consideration when deciding to fly home, but I didn't know for sure. Within a couple of minutes after launch, the No. 1 low-fuel light illuminated, indicating we had 340 pounds of fuel in that tank and less in the No. 2 tank, (since that light had illuminated 10 minutes prior). I heard the HAC request a heading and DME to North Island. The ship's CIC replied it was 110 degrees at 21 DME. As it turned out, home base was closer to 30 miles away (problem number 10).

From the windows of the aircraft, I could see the lights of Point Loma; my heart was pounding. Even though I was not up ICS and I couldn't hear the crew communications, I could see two low-fuel lights screaming at me. I tried to do some fuel calculations in my head, based on the last numbers I'd heard, and determined we would be extremely close to our landing fuel limit. There was nowhere else to go but home. This was the first time I ever seriously considered my ditching procedures. As we rounded Point Loma, the HAC declared minimum fuel. We all breathed a collective sigh of relief as we touched down with exactly 200 pounds of fuel per side.

After our debrief, I asked the HAC to explain his decision-making process. Since we had enough fuel to make it home and since he could see Point Loma from the ship, he felt we would be safe. When I asked if he had considered the weather, he said no, but he reiterated that he could see Point Loma clearly.

The lessons I learned from this first trip to the boat were many. First, never expect the boat to be where they said it would be, or when they said it would be there. Second, be wary of a ship that is just out of the yards. The crew may not be able to operate at the pace you would expect from a more seasoned crew. Third, get fuel from a ship before you reach a fuel-critical situation. Fourth, seek input from all members of your crew when possible. Fifth, when you notice problems beginning to pile up, (in our case, 10 of them) step back and do some quick ORM with your crew, or at least in your head. Our flight only was for FRS training and there was no need to push a bad situation. Last, always take weather into account when you are in a fuel-critical situation. If the weather had deteriorated further on our return, we might have been unable to shoot an instrument approach or proceed to an alternate. We would have had to ditch.

Ltjg. Mullen flies with HC-11.

Mishap-Free Milestones

HS-2
16 years (50,000 hours)

HS-8
20 years (64,000 hours)

HS-11
10 years (30,000 hours)

HMH-362
17 years (55,000 hours)

HMH-462
(40,000 hours)

VAQ-131
4 years (6,250 hours)

VAQ-133
5 years (6,550 hours)

VAW-117
23 years (50,000 hours)

VAW-124
8 years (15,000 hours)

VFA-125
9 years (163,000 hours)

VP-5
23 years (128,000 hours)

VP-47
28 years (171,000 hours)

VQ-3
24 years (193,289.8 hours)

VF-143
12 years (43,407 hours)
The Pukin' Dogs earned the 2000 CNO Safety "S" Award.

Anyone Got a Deer Whistle?

by LCdr. Brian Travers

It was my first flight in the squadron after completing the IUT syllabus at TW-5. What a good deal: a mid-afternoon brief for a day-into-night out and in. Comfortable spring weather covered northwest Florida.

After briefing and filing for a VFR out and in to nearby Florala Municipal Airport (which all Whiting-based IPs know is home to some good complimentary burritos), we preflighted and launched. It was a primary RI flight, and the stud did a good job. After finishing the event, I told him to lower the hood, enjoy the flight and be ready for the VFR entry into Florala. We landed and relaxed as we grabbed a bite to eat and debriefed the event. Five other T-34s were parked on the ramp. The crews were in the FBO, eating and waiting for sunset so they could launch on night events.

After an hour on deck, and 45 minutes after sunset, we manned up for the second event. As I strapped in and got the avionics on line, I caught the tail end of an aircraft radio transmission warning of deer on the runway. Great, I thought, I'm at an unfamiliar field, in the dark, on my first instructor hop, with danger of deer on the runway. I pondered my options: Let someone else come out and launch ahead of me, take my chances with the deer, or take off with the landing lights off. As I sat and wondered, an Army H-1 doing touch-and-goes on the runway distracted me. Then I had an idea. I spun up the CTAF freq on the VHF and called the Huey. "Hey, you mind making a low pass down the runway to scare off the wildlife? I've got reports of deer on the runway."

"No sweat, you ready to go now?"

"Yup, I'll be following you as soon as you turn clear to the left, and I'll be making the takeoff straight ahead, with a departure to the right."

As I approached the hold-short, I shut off my landing lights. The Huey made a low pass at about 20 feet and 50 to 60 knots, with lights blazing and making all the noise a Huey can muster. As he passed me, I taxied to the position and hold, and flipped the landing lights back on. Once he started his climb to clear the trees, I set takeoff power while holding the brakes. As he went through about a 45-degree turn, I released the brakes for takeoff. The takeoff roll went textbook, and we got out without incident. As we cleared to the southwest, I called back to inform the other T-34s manning up for the night launch about the deer problem. Everyone got out safely, and the Army guys got extra low-pass practice. I don't remember the student's name or how the second event went, but the few minutes trying to come up with a deer-removal plan are as clear as if they happened yesterday. Go figure!

LCdr. Travers flew with VT-2 when this incident occurred and is now with VR-62.

Helo photo by Master Sgt. Raymond T. Conway
Photo composite by Patricia Eaton

Not So R

by Lt. Andre Ragin and Lt. Kirk Schneringer

We were in the third month of our deployment and our second month in the Arabian Gulf. We had the routine down pat. The "It can't happen to me" attitude had set in.

This day started off with a typical flight brief for a short one-hour hop. The crew consisted of two other cruise-experienced junior officers and a guest photographer's mate. We covered all of the mission items and, although we had heard the flight safety brief 50 times before, the pilot gave it anyway. This part of the brief is always important, but since our guest rider had few flight hours, we took the extra time to meticulously brief this portion. We didn't want any questions if something went wrong. It was a good thing we did.

Man-up, start-up, and taxing to the catapult were uneventful but, by the time we left the pointy end of the ship, we realized this flight wasn't going to be routine. As soon as the plane jumped off the deck, we couldn't talk to each other—we had lost our ICS. Per the brief, we worked through this difficulty by yelling and gesturing. Since it was Case I, zip lip, we decided to climb to our squadron altitude and troubleshoot.

Soon we had something else to troubleshoot: a master caution light for an unlocked wing. The COTAC (front-right seater) and TACCO (back seater) pulled out their pocket checklists, and we went through the procedures. After reviewing the checklists, we agreed it was probably just a proximity switch, but to be on the safe side, we

Routine After All

would do a precautionary straight-in. We tried to contact departure to talk to a squadron representative, but all we heard was, well, nothing. For the first time, we realized we might have a total communications failure and couldn't talk to anyone. We tried using the backup radio, cycling circuit breakers, and anything else we could think of, but to no avail. All our resources were exhausted, and we resigned ourselves to the fact we were NORDO.

Per the NORDO portion of the safety-of-flight brief, we joined up with another S-3B overhead. To get the ship's attention, the COTAC rolled in 7600 as our new squawk and broke out his PRC-90. Using standard hand signals and a quick call over Guard, we were able to notify our playmate we were NORDO. To avoid a comm-jam of Guard, the COTAC signaled our new wingman to switch up the alternate SAR frequency. The COTAC pushed the other S-3B forward, and the pilot passed them the lead. They relayed our problems to the squadron representative in the tower, who began coordinating with the air boss. Since our problems were not too serious, we decided to stay on the wing of our newfound friend and land in the next recovery.

Just when things were looking up, the weather began to deteriorate. The first sandstorm of the deployment rolled in and engulfed the carrier. Visibility rapidly decreased, and it became obvious we'd be making a Case III recovery. The lead aircrew confirmed our suspicions, as they passed the approach information to the COTAC over SAR frequency.

Flying NORDO was no different than flying normal form. We were comfortable. Why? Because we often had trained for this situation by practicing NORDO approaches. The lead aircraft took us through the entire approach and was able to drop us off at one mile and 400 feet behind the boat. Visibility was so bad we barely were able to break out a ball until just inside three-quarters of a mile. With help from the COTAC, the pilot was able to break out the ball and fly it to touchdown. We were safe on deck and our not-so-routine flight finally was over.

As soon as the plane jumped off the deck, we couldn't talk to each other—we had lost our ICS.

No matter how boring the safety-of-flight brief seems, it is the building block for a good flight. Thanks to the brief and all of our section-formation practice, we were prepared. Despite the stress of being NORDO, having an actual emergency, and flying in IMC conditions, we were able to overcome, adapt and improvise.

Lt. Ragin and Lt. Schneringer fly with VS-22.

Crew Resource Management

Situational Awareness
Assertiveness
Decision Making
Leadership
Communication
Adaptability/Flexibility
Mission Analysis

What We Have Here

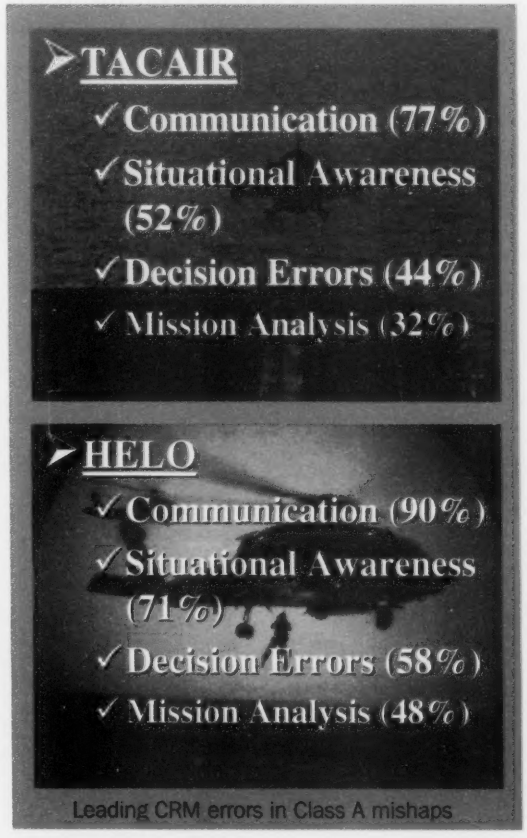
by LCdr. Mike Rogers

We communicate every day, but how often do you miss certain signals? If you're in a relationship, you probably have been accused of not listening, especially if you're a male. Usually it's missing a hint about an anniversary or birthday gift, or forgetting a commitment to visit the outlaws.

Flying day in and day out, especially on deployment or work-ups, with the same group of people leads to similar problems. How often have you miscommunicated or misunderstood a simple signal or message? It happens to all of us because of many reasons: routines, distractions, noise, and mission-tasking issues (such as checklist requirements or radio traffic). CRM lectures list other barriers: culture, attitudes, gender, rank, and experience.

In marriage, not effectively communicating leads to arguments. In aviation, it can lead to disaster. Naval Safety Center statistical analyses of Class A mishap data shows communication errors are the leading CRM failure.

Communication is an issue for you single-seat TACAIR guys, too. The combined communication error rate is 1.2 per 100,000 flight hours, not much behind current Class A mishap rates. Most of the errors occur during takeoff and landing phases, followed by errors in the tactical phases of flight. The common threads for these errors are high-task loading and distractions. To combat these risks, practice standardized comms during critical phases of flight, and limit the comms to essential items only. Do checklists, briefs, and lead changes as soon as possible to better focus on communication requirements.



Leading CRM errors in Class A mishaps

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Is a Failure to Communicate. . .

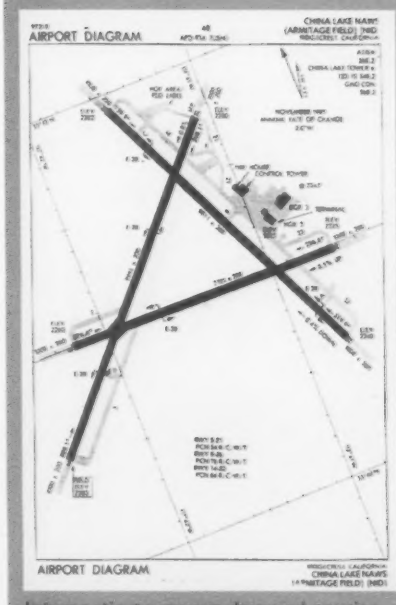
T-34 Solo Form Flight Nearly Ends in Disaster

Two T-34s, with an instructor in chase, were doing a lead change halfway through their flight. The flight lead signaled the change with standard hand signals and a call on flight common. Not hearing a response or seeing corresponding hand signals, he assumed Dash 2 wasn't ready, and he maintained heading and altitude. Dash 2 had seen the signal but hadn't acknowledged it. He assumed he now had the lead. He began his outside scan, looking straight ahead, while waiting for the other aircraft to slide away and down for the cross-under into the starboard parade position. There was no positive lead change. Within 30 seconds, the aircraft began to drift toward each other, with both assuming they had the lead. The IP in the chase aircraft alertly transmitted, "Who has the lead?" Both pilots responded, "I do." Quickly realizing that neither was flying wing, the flight separated and discussed what nearly had happened. The flight continued uneventfully once the aircrews reoriented themselves and started communicating. This near-disaster was averted because the IP, keeping his situational awareness, took control of the situation.

Breakdowns in Communication Result in Near Miss

Summary of a hazrep from NAVWPNTESTRON China Lake

China Lake, as do many airfields, often has flight ops on multiple runways. The runways are laid out in a triangle and intersect (see airfield diagram). A visiting pilot in a locally assigned AV-8 was conducting a V-STOL landing to the approach end of runway 3. On landing, the pilot switched ground frequency and requested clearance to his line. The local ground controller replied, "Taxi to your line, but hold short of runway 32 for landing traffic." As he approached the intersection of runway 3-26, the pilot tried to clarify his taxi route, requesting, "Back taxi 26." This is the normal route to the line, and the controller simply responded, "Approved as requested." Ground did not reiterate the requirement to hold short of 32, nor did he clear the Harrier to cross. On the other hand, the pilot failed to request, "Back taxi 26 to my line," which might have made ground clarify the requirement to hold short of runway 32.



Intersecting runways demand precise comms.

Three minutes passed as the Harrier taxied toward runway 32 on runway 26. The next transmission was a frantic hold-short call by ground to the AV-8 pilot as he rolled onto runway 32. He hadn't cleared the runway for landing or departing traffic, and had taxied right in front of a landing C-26 Metroliner. The C-26 pilot, having just touched down, applied maximum power and rotated, missing the AV-8 by roughly 20 feet.

The commanding officer commented, "Sloppy, imprecise communications and lack of basic situational awareness by the taxiing pilot and ATC personnel in the tower nearly produced a multiple fatality accident. Any pilot would agree that the AV-8 wrongfully crossed a runway without clearance or 'due regard.' Most ATC personnel would agree that communications were too imprecise and untimely, particularly with pending landing traffic." He observed that local controllers and pilots had become comfortable with undisciplined communications.

LCdr. Rogers is the CRM program representative at the Naval Safety Center.

Where's the for the Alter

by Capt. Kevin Mulligan

The flight school instructors always wanted us to be aware of traps that seem benign. A hop that is to be the most routine hop of the syllabus turns out to leave us all quaking in our boots.

Our plan was to launch as two sections on the administrative leg from MCAS Beaufort to NAS Pensacola. The following day we were to [illegible] starting areas off Pensacola doing 2 v 2 [illegible]. Then we would circle-in-the-well [illegible] that concluded every [illegible].

[illegible] was working the [illegible] the two other pilots [illegible] for local [illegible] Canceled. Weather could [illegible] cross-country [illegible] trying to find a way to get to [illegible] locations. The weather from Texas to Chicago and points east was overcast. A moving weather system made it difficult to accurately forecast the sky conditions for any period of time. After two hours of watching the forecast screen, talking to the weather forecaster, and calling various alternate airfields, the destination weather improved enough to make our launch legal.

Having found a window of opportunity at NAS Pensacola, and having NAS New Orleans as a legal alternate, we launched our two sections. My aircraft was Dash 2 of the second section. My lead was working up for Top Gun and WTI. He and his WSO had both experienced a WestPac cruise. In my backseat was the XO of our squadron. I was the new guy, having been in the squadron for two months. It was my first road show, and I was looking to get my first taste of air-to-air in the mythical fleet.

Being fat on gas, we expedited our leg down to Pensacola. The lead section, led by a major, was 30 minutes ahead of us. His WSO was a member of our squadron, who had over a year in the fleet and one WestPac under his belt. Dash 2 of that section was a classmate of mine in the FRS. His WSO, a major, was also heading for Top Gun and WTI.

The games began upon their arrival at Pensacola. The lead section found the weather rapidly changing. Dash 2 went missed approach after the CCA controller brought him down too far right of course. As he went missed approach left, he could see the approach lights through the fog passing under his left wingtip. His lead landed safely, and Dash 2 brought it around for another try. In the time it took him to go around the box pattern, the weather had gone to minimums. On his second attempt, again the controller brought him down too far right for a safe approach. Checking his fuel state, he diverted to New Orleans.

After shutdown, the lead's WSO called back to the squadron and advised that, if we hadn't departed yet, we should stay in Beaufort. Since we were on different discrete tactical frequencies, we

Alternate nate?

had not maintained any communication between the two sections. As he spoke to the operations duty officer, the sound of our engines announced our arrival overhead Pensacola. The weather [illegible] was being reported at minimums. Lead sent me down first, trying to get me on deck.

The sun was setting in the west, casting orange and red shadows across the top of the cloud deck. The idea of shooting an approach to minimums, at night, wasn't on my top-10 list of things to do. I was determined to make this approach count and land before the sun went down. "Land this beast, go have a few beers, play a couple games of Crud, and hope for better weather tomorrow," I thought.

As I came in on my approach the GCA controller broke in [illegible] missed approach. I [illegible] for the runway. [illegible] GCA [illegible] [illegible] [illegible]

Where's the for the Alter

The flight-school instructors always warned us to beware of hops that seem benign. What was to be the most routine hop of the weekend turned out to leave us all quaking in our boots.

Four aircraft were to launch as two sections and fly an administrative leg from MCAS Beaufort to NAS Pensacola. The following day, we were to work in the warning areas off Pensacola doing 2 v 2 intercepts. When we went wheels-in-the-well, we thought we had considered every "what if" scenario.

On Friday afternoon, rain was soaking the entire East Coast, and the non-scheduled pilots headed to the club. The pilots scheduled for local hops were waiting to get cancelled, so they could go to the club. The aircrews on the cross-country hops, however, were trying to find a way to get to more appealing locations. The weather from Texas to Chicago and points east was overcast. A moving weather system made it difficult to accurately forecast the sky conditions for any period of time. After two hours of watching the forecast screen, talking to the weather forecaster, and calling various alternate airfields, the destination weather improved enough to make our launch legal.

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As I came in on my approach, the GCA controller brought me down too far right. Going missed approach, I never saw the approach lights for the runway. I cleaned up the aircraft and went back into the GCA box pattern. Lead was having a similar experience. As I turned base leg, I heard lead go missed approach and turn downwind. Checking our fuel state, we decided we would give it one more shot and then head for New Orleans. Our weather report said conditions there were 800 and two.

Turning onto final, the final approach controller announced that the weather was now below minimums. I rogered the call but having commenced the approach, we decided to give it a try. Coming down the chute again, the controller again brought me down slightly right of course. Though he was calling me on course at my decision height, I could not see the approach lights.

Photo-composite by Patricia Eaton

However, as I went missed approach, I caught a glimpse of the rabbit lights going under my left wing. "There it is," I said.

"I see it," said the XO.

However, I had bought my missed approach, and we now were committed to New Orleans.

Lead followed my path over the ground but did not attempt the approach. He had coordinated both aircrafts' clearances to New Orleans and followed me as we climbed out and headed west. We got as high as we could, as fast as we could, pulled up FPAS (Flight Performance Advisory System), and started working the numbers. The winds aloft were faster than predicted—we had nearly 80 knots in the face. Hawking the numbers now, both crews were on a bingo profile into New Orleans. FPAS showed us landing with 2,000 pounds of gas. Since the weather was reported as 800 and two, we were not worried about having to deal with Pensacola's conditions.

I felt as if some "Mr. Zeller" was out there on the console, changing the scenario and laughing at me as I sweated it out.

As we headed toward New Orleans, any warm and fuzzy we had disappeared. ATIS had not been updated to report that the weather had dropped below minimums there. We were advised of this condition as center switched us to approach. All other airfields within range were below minimums. It was like an instrument simulator in flight school. I felt as if some "Mr. Zeller[1]" was out there on the console, changing the scenario and laughing at me as I sweated it out. The only difference was that I couldn't put this scenario on freeze.

The XO designated the airport with the radar and put the diamond on the centerline of the approach end of the duty runway. We told New Orleans that we were minimum fuel and needed priority handling to land at NAS New Orleans. Approach responded, "We are below minimums and recommend that you proceed to your alternate."

"You are our alternate," we replied. With that, the situation to all involved became crystal clear. As in my simulator experience, there were no other options available. The lines of the box had been drawn, and we were stuck in it.

Rolling out on final, I dirtied up and did my landing checks twice. I hawked the instruments as if I was flying the ultimate check-ride. The on-and-on calls corresponded with the designation on the end of the runway. At decision height, there was nothing but black soup. However, after a one-second delay, I began to see the dim glow of the rabbit lights, just under my left LEX. My rate of descent was 650 feet per minute, the diamond was three degrees down, my velocity vector was on it, and I was on speed. The lights grew brighter. I saw a line of green, and the runway lights burned through the fog, just as the wheels hit the runway.

Exiting the runway, I breathed for the first time in five minutes, safed the seat, and began to taxi to the transient line. As we taxied back toward the approach end of the runway, I saw the landing light of lead's jet, skimming flatly across the approach-end lights. His wheels touched the deck, and I breathed again.

Dash 2 of the first section was waiting for us at the transient line. We collectively agreed that training did not need to start prior to noon the next day. Bourbon Street had six needy customers. If you're ever in town, check out our zapper at the House of Blues.

The first lesson learned was that the forecaster could be wrong and still keep his job. If the weather does not develop as forecasted, the forecasters can scratch their heads and reach for another cup of coffee. However, as the aircrew, you can find yourself cornered into a very small box. Second, do not be lulled into a false sense of security, simply because you are Dash 2 in a "benign" administrative hop. Who looks after you better than you? Nobody. Third, back up the GCA controller with your air-to-ground radar. Much like backing up CV-approach needles with bulls-eye, the TACAN, and the BRC course line, the diamond can help you get the jet on deck safely. Fourth, if mother nature is throwing a fit, it might be better to keep the jets at home. Finally, no matter what time of year you visit Bourbon Street, it is always a good time.

Capt. Mulligan flies with VMFA(AW)-332.

[1]Mr. Bert Zeller is a simulator instructor at NAS Meridian, Miss.

The first outcome is that you have enough prop hydraulic fluid left to use the e-handle. We didn't expect we would be able to do that based on the rapid rate we had lost hydraulic fluid.

The second outcome is that when the engine shuts down, the prop and engine remained coupled. In this case, the prop remains in a less-than-feathered condition, and the airload on the prop drives the prop and engine. The problems with this situation are a significant decrease in range and the potential for directional-control problems during the approach and landing.

The third outcome occurs when the prop and engine decouple because of excessive air load on the prop. The prop continues to rotate at a high rpm. The air load also will cause the engine to rotate at a very low rpm. The end result is that the engine oil pumps will continue to lubricate the engine, but the scavenge pumps will not be able to maintain a pressure head and oil will pool up inside the engine. The amount of oil going to the reduction gearbox will continue to diminish, eventually causing an extremely hot metal fire in the gearbox.

Level at 7,000 feet, we really had to put the game faces on and work as a team. We were fortunate to have an experienced flight station this day. Both pilots in the seat were qualified aircraft commanders and the third pilot was qualified in model. The first engineer was a qualified instructor. The first task was to make sure we completed all of the NATOPS procedures, which take up the better part of four pages in the big blue book. Then we had to come up with a game plan for securing the engine and shooting the approach. Here we initially split 50-50. I was content to remain in holding and shoot the TACAN following shutdown.

We also discussed descending into the VFR delta pattern over Whidbey Island to minimize the amount of time the motor would be windmilling following shutdown. The problem was to determine if we would be able to get into the delta pattern at a reasonable airspeed. We decided we probably would not be able to descend below 5,000 feet before the engine reached limit power at our current airspeed. We could speed up to get lower, but that would lead to another set of problems.

We remained in holding, and, as predicted, we stopped our descent at 5,000 feet. The motor was at limit shaft horsepower and temperature. We all felt comfortable that we could secure the engine and make a normal descent and approach to the active runway. We completed all checklists and again discussed the potential results of securing the engine with the fuel and ignition switch. My copilot then called ATC with our intention to initiate the TACAN approach to runway 7 and make a three-engine landing.

As we turned inbound from holding, the flight engineer secured the motor. We immediately began to dirty-up to reduce our airspeed and limit the airload on the windmilling prop. As we slowed to 160 knots, the engine indications were negative 600 shaft horsepower and approximately 45 percent rpm. The prop had remained coupled, but there were no indications we would have enough hydraulic fluid to secure the engine with the emergency-shutdown handle.

Established inbound to the IAF, I conducted a slow-flight check at 145 knots, added power on the remaining engines (as I would in the event of a waveoff), and verified aircraft controllability. The plane appeared to handle just like it normally would with one engine out. I then shot the TACAN to runway 7.

The final tricky part of a pitchlocked prop is the landing. When an engine is normally feathered prior to landing, you know how the aircraft will handle on the runway because the drag of the feathered prop is a constant. With the prop pitchlocked, the drag constantly varies as the rpm slowly decays from the time you start the flare until the aircraft comes to a stop. Fortunately the winds and runway conditions this day were favorable, and I was able to slowly reverse on the three operating engines. The windmilling prop didn't create excessive yaw.

From start to landing, this malfunction lasted about an hour. It was probably the most draining hour of flight that any of us ever had labored through, but it was also one of the most rewarding hours. We were faced with a complex emergency and were able to walk away from it with the feeling that we had followed the principles of CRM and NATOPS the way we should.

Lt. Linskey flies with VP-1.

Ready Room Gouge

Learn from the mistakes of others. You won't live long enough to make all of them yourself.

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